

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

CONSTRUCTION CODE

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(By authority conferred on the director of the department of consumer and industry services by section 4 of 1972 PA 230 and Executive Reorganization Order No. 1996-2, MCL 125.1504 and 445.2001)

R 408.30401, R 408.30404, R 408.30408, R 408.30409, R 408.30410, R 408.30411, R 408.30412, R 408.30415a, R 408.30427, R 408.30429a, R 408.30437, R 408.30443, R 408.30445, R 408.30447, R 408.30448d, R 408.30449, R 408.30458, R 408.30475, R 408.30499, R 408.30503, R 408.30505, R 408.30506, R 408.30508, R 408.30510, R 408.30511, R 408.30512, R 408.30513, R 408.30514, R 408.30515, R 408.30517, R 408.30518, R 408.30519, R 408.30520, R 408.30521, R 408.30522, R 408.30523, R 408.30524, R 408.30526, R 408.30531, R 408.30534, R 408.30536, and R 408.30537 of the Michigan Administrative Code are amended, R 408.30414, R 408.30416, R 408.30417, R 408.30418, R 408.30419, R 408.30420, R 408.30421, R 408.30444, R 408.30539, R 408.30540, R 408.30541, R 408.30542, R 408.30543, R 408.30544, R 408.30545, R 408.30546, and R 408.30547 are added to the Code, and R 408.30406, R 408.30461, and R 408.30495a of the Code are rescinded as follows:

PART 4. BUILDING CODE

R 408.30401 Applicable code.

Rule 401. The provisions of the international building code, ~~//2000//~~**2003** edition, including appendices F, G, and H, except for sections 104.8, 108.2 to 108.6, ~~//112 to~~**112.2**, 112.3, 114.3, 415.7.2.2 to 415.7.2.10, 415.7.3.1 to 415.7.3.5.2, ~~//1107.2.1, 1107.2.2, 1107.2.2.1, 1107.2.3, 1107.2.3.1, 1107.2.3.2, 1107.2.4, 1107.2.4.1, 1107.2.5, 1107.2.5.1, 1107.2.5.2, table 1107.2.2, table 1107.2.2.1, table 1107.2.4.1, 1107.3.1, 1107.3.2, 1107.3.3, 1107.5.6, 1107.5.7, 1108.2.1.1, 1108.2.1.2, 1108.2.1.3, 1108.2.1.4, 1108.2.1.5, 1108.2.1.6, 1108.2.1.7, 1108.4, 1108.5, 1108.6, 1108.7, 1108.8, 1108.8.1, 1108.8.2, 1108.8.3, 1108.9, 1108.10, 1108.11, 1108.11.1, 1108.12, 1108.12.1, 1108.12.2, 1108.12.3, 1108.12.4, 1108.12.5, table 1108.12.2, 1108.13, 1108.13.1, 1108.14, 1108.14.1, 1108.14.2,~~ table 1608.2, 2902 to 2902.6.2, ~~//3001.3,~~**3006.5**, the definition of "recreational vehicle" in Appendix G, and, IECC-~~//2000//~~**2003**, ICC EC-~~//2000//~~**2003**, IMC-~~//2000//~~**2003**, IPC-~~//2000//~~**2003**, IPSDC-~~//2000//~~**2003** listed in chapter 35, and the provisions of the international residential code, ~~//2000//~~**2003** edition, including appendices A, B, C, D, E, F, G, J, ~~//and~~**K, and L**, except for sections R104.8, R108.2, R108.3, R108.4, R108.5, ~~//R112.1,~~**R112.3**, ~~//N1101.2~~**N1101** to N1104.1, **tables N1101.2, N1102.1, N1102.1.1.1(1), N1102.1.1.1(2), N1102.1.1.2, N1102.4, N1103.1, N1103.5, and N1104.1, sections P2503.8, P2709.2.1, AJ102.4, and IBC-//2000//2003,**

August 15, 2003

ICC EC-~~//2000//~~**2003**, IECC-~~//2000//~~**2003**, IMC-~~//2000//~~**2003**, IPC-~~//2000//~~**2003**, NFPA 70-~~//99//~~**02** listed in chapter 43 govern the construction, alteration, relocation, demolition, use, and occupancy of buildings and structures, and, with exceptions noted, the international building code and the international residential code are adopted by reference in these rules. All references to the International Building Code, International Residential Code, International Energy Conservation Code, International Electrical Code, **International Existing Building Code**, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, **Michigan Rehabilitation Code for Existing Buildings**, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The codes are available for inspection at the Okemos office of the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes **and Fire Safety**. The codes may be purchased from the ~~//Building Officials and Code Administrators International, Incorporated, 4051 West Flossmoor Road, Country Club Hills, Illinois 60478//~~**International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041**, or from the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes **and Fire Safety**, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these amendatory rules of ~~//\$60.00//~~**\$65.00** and \$45.00, respectively.

R 408.30404 Approval.

Rule 404. Section 104.9 of the code is amended to read as follows:

104.9. Approved materials and equipment. Materials, equipment, and devices shall be constructed or installed in accordance with approvals granted under section 21 of ~~//the act//~~**1972 PA 230, MCL 125.1521** or by the building official.

R 408.30406 **Rescinded.**~~//Building Official.~~

~~Rule 406. Section 103.2 of the code is amended to read as follows:~~

~~103.2. "Building official" means the person who is appointed and employed by a governmental subdivision charged with the administration and enforcement of the state code or codes and who is registered in accordance with the requirements of 1986 PA 54, MCL 338.2301 et seq.~~

R 408.30408 Fees.

Rule 408. Section 108.1 of the code is amended to read as follows:

108.1. Payment of fees. The fees prescribed by section 22 of ~~//the act//~~**1972 PA 230, MCL 125.1522**, shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee has been paid.

R 408.30409 Permit.

Rule 409. Sections 105.1.1, 105.1.2, and 105.2 of the code are amended to read as follows:

105.1.1. Annual permit. In place of an individual permit for each alteration to an already approved electrical, gas, mechanical, or plumbing installation, the enforcing

agency is authorized to issue an annual permit upon application therefore to any person, firm, or corporation. The applicant shall be licensed in accordance with the requirements of 1956 PA 217, MCL 338.881 et seq., 1984 PA 192, MCL 338.971 et seq., or ~~//1929 PA 266, MCL 338.901~~//**2002 PA 733, MCL 338.3511** et seq.

105.1.2. Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under an annual permit. Access to the records shall be provided at all times and the records shall be filed with the enforcing agency.

105.2. Work exempt from permit. Exemptions from permit requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the code or any other laws or ordinances of this jurisdiction. Permits shall not be required for any of the following:

(a) Building permits shall not be required for any of the following:

- (i) One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11.15m²).
- (ii) A fence that is not more than 6 feet (1829 mm) high.
- (iii) Oil derricks.
- (iv) A retaining wall that is not more than 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding class I, II or III-A liquids.
- (v) A water tank supported directly upon grade if the capacity is not more than 5,000 gallons (18 927 L) and the ratio of height to diameter or width is not greater than 2 to 1.
- (vi) A sidewalk or driveway that is not more than 30 inches (762 mm) above grade and is not over any basement or story below and which are not part of an accessible route.
- (vii) Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
- (viii) Temporary motion picture, television and theater stage sets and scenery.
- (ix) Prefabricated swimming pools accessory to a group R-3 occupancy, as applicable in section 101.2, which are less than 24 inches (610 mm) deep, do not exceed 5,000 gallons (19 000 L) and are installed entirely above ground.
- (x) Shade cloth structures constructed for nursery or agricultural purposes and not including service systems.
- (xi) Swings and other playground equipment accessory to 1- and 2-family dwellings.
- (xii) Window awnings supported by an exterior wall **which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support** of group R-3, as applicable in section 101.2 and group U occupancies.
- (xiii) Movable cases, counters, and partitions.

(b) Electrical permits shall not be required for any of the following:

- (i) Repairs and maintenance: Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.
- (ii) Radio and television transmitting stations: The provisions of the code do not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for power supply and to the installation of towers and antennas.
- (iii) Temporary testing systems: A permit is not required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

(c) Mechanical permits shall not be required for any of the following:

- (i) Portable gas heating appliance.
- (ii) Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.
- (iii) Portable heating appliance.
- (iv) Portable ventilation equipment.
- (v) Portable cooling unit.
- (vi) Steam, hot or chilled water piping within any heating or cooling equipment regulated by the code.
- (vii) Replacement of any part that does not alter its approval or make it unsafe.
- (viii) Portable evaporative cooler.
- (ix) Self-contained portable refrigeration unit that is not more than 1.5 horsepower (1119 W).
- (d) Plumbing permits shall not be required for any of the following:
 - (i) The stopping of leaks in drains, water, soil, waste, or vent pipe. However, if any concealed trap, drainpipe, water, soil, waste, or vent pipe becomes defective and it becomes necessary to remove and replace the drain or pipe with new material, then the work is considered new work and a permit shall be obtained and inspection made as provided in the code.
 - (ii) The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, if the repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.

R 408.30410 Violations.

Rule 410. Section 113.4 of the code is amended to read as follows:

113.4. Violation penalties. It is unlawful for any person, firm, or corporation to violate a provision of the code or fail to conform with any of the requirements thereof, or erect, construct, alter, extend, repair, move, remove, demolish, or occupy any building, structure, or equipment regulated by the code, or cause work to be performed or done, in conflict with or in violation of the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the code. A violator shall be assessed a fine in accordance with section 23 of ~~//the act//~~**1972 PA 230, MCL 125.1523**.

R 408.30411 Stop-work order.

Rule 411. Section 114.2 of the code is amended to read as follows:

114.2. Notice to owner. Upon notice from the enforcing agency, work on any building or structure that is being done contrary to the code or in a dangerous or unsafe manner shall immediately cease. Notice shall be in accordance with section 12 of ~~//the act//~~**1972 PA 230, MCL 125.1512**. A person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition is subject to the penalty provisions prescribed in section 23 of ~~//the act//~~**1972 PA 230, MCL 125.1523**.

R 408.30412 Certificate of use and occupancy.

Rule 412. Section 110.1 of the code is amended to read as follows:

110.1. Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy classification of a building or structure or portion

thereof shall not be made until a certificate of occupancy has been issued in accordance with section 13 of ~~the act~~ **1972 PA 230, MCL 125.1513.**

R 408.30414 Means of Appeal.

Rule 414. Section 112.1 of the code is amended to read as follows:

112.1 Means of appeal. A person may appeal a decision of the enforcing agency to the board of appeals. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The application shall be filed in accordance with section 14 of 1972 PA 230, MCL 125.1514.

R 408.30415a Definitions.

Rule 415a. The definitions of building, registered design professional, and structure in section 202 of the code are amended to read as follows:

202. Definitions.

"Building" means a combination of materials, whether portable or fixed, forming a structure affording a facility or shelter for use or occupancy by persons, animals, or property. The term does not include a building incidental to the use for agricultural purposes of the land on which the building is located if it is not used in the business of retail trade. The term shall be construed as though followed by the words "or part or parts of the building and all equipment in the building" unless the context clearly requires a different meaning.

"Building official" means the person who is appointed and employed by a governmental subdivision charged with the administration and enforcement of the state code or codes and who is registered in accordance with the requirements of 1986 PA 54, MCL 338.2301 et seq.

"Registered design professional" means an individual who is licensed under article 20, 1980 PA 299, MCL 339.2001 et seq.

"Structure" means that which is built or constructed, an edifice or building of any kind, or a piece of work artificially built up or composed of parts joined together in some definite manner. Structure does not include a structure incident to the use for agricultural purposes of the land on which the structure is located and does not include works of heavy civil construction including without limitation any of the following:

- (a) A highway.
- (b) A bridge.
- (c) A dam.
- (d) A reservoir.
- (e) A lock.
- (f) A mine.
- (g) A harbor.
- (h) A dockside port facility.
- (i) An airport landing facility.
- (j) A facility for the generation, or transmission, or distribution of electricity.

Structure shall be construed as though followed by the words "or part or parts of the structure and all equipment in the structure," unless the context clearly indicates otherwise.

R 408.30416 Area and height increases.

Rule 416. Section 406.3.6 of the code is amended to read as follows:

406.3.6. Area and height increases. The allowable area and height of open parking garages shall be increased in accordance with the provisions of this section. Garages with sides open on 3/4 of the building perimeter are permitted to be increased by 25% in area and 1 tier in height. Garages with sides open around the entire building perimeter are permitted to be increased 50% in area and 1 tier in height. For a side to be considered open under the provisions of this rule, the total area of openings along the side shall not be less than 50% of the interior area of the side at each tier, and such openings shall be equally distributed along the length of the tier.

Allowable tier areas in table 406.3.5 shall be increased for open parking garages constructed to heights less than the table maximum. The gross tier area of the garage shall not exceed that permitted for the higher structure. At least 3 sides of each such larger tier shall have continuous horizontal openings not less than 30 inches (762 mm) in clear height extending for at least 80% of the length of the sides, and no part of such larger tier shall be more than 200 feet (60 960mm) horizontally from such an opening. In addition, each such opening shall face a street or yard accessible to a street with a width of at least 30 feet (9144 mm) for the full length of the opening, and standpipes shall be provided in each such tier.

Open parking garages of type II construction, with all sides open, shall be unlimited in allowable area where the height does not exceed 75 feet (22 860 mm). For a side to be considered open, the total area of openings along the side shall not be less than 50% of the interior area of the side at each tier, and such openings shall be equally distributed along the length of the tier. All portions of tiers shall be within 200 feet (60 960 mm) horizontally from such openings.

R 408.30417 High-rise buildings.

Rule 417. Sections 907.2.12 and 907.8.2 of the code are amended to read as follows:

907.2.12. High-rise buildings. Buildings having floors used for human occupancy located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with section 907.2.12.2.

Exceptions:

1. Airport traffic control towers in accordance with sections 412 and 907.2.22.
2. Open parking garages in accordance with section 406.3.
3. Buildings with an occupancy in group A-5.
4. Low-hazard special occupancies in accordance with section 503.1.2.
5. Buildings with an occupancy in group H-1, H-2, or H-3 in accordance with section 415.

907.8.2. High-rise buildings. In buildings used for human occupancy that have floors located more than 55 (16 764 mm) above the lowest level of fire department

vehicle access, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

R 408.30418 Maximum floor area allowances per occupant.

Rule 418. Table 1004.1.2 of the code is amended to read as follows:

**Table 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

OCCUPANCY	FLOOR AREA IN SQ. FT. PER OCCUPANT
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See section 1003.2.2.9
Assembly without fixed seats	
Concentrated (chairs only-not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms-other than fixed seating areas	40 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Locker rooms	15 gross
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross

Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Accessory storage areas, mechanical equipment room	300 gross
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m²

R 408.30419 Stadiums.

Rule 419. Section 1008.2.1 of the code is amended to read as follows:

1008.2.1. Stadiums. Panic hardware is not required on gates surrounding stadiums where such gates are under constant immediate supervision while public is present, and further provided that safe dispersal areas based on 3 square feet (0.28 m²) per occupant are located between the fence and enclosed space. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from the enclosed space.

R 408.30420. Vertical exit enclosures.

Rule 420. Section 1019.1 of the code is amended to read as follows:

1019.1. Vertical exit enclosures. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the shaft enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress. Enclosures shall be constructed as fire barriers in accordance with section 706.

Exceptions:

- 1.** In other than group H and I occupancies, a stairway serving an occupant load of less than 10 not more than one story above the level of exit discharge is not required to be enclosed.
- 2.** Exits in buildings of group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
- 3.** Stairways serving and contained within a single residential dwelling unit or sleeping unit in occupancies in group R-2 or R-3 and sleeping units in occupancies in group R-1 are not required to be enclosed.
- 4.** Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with section 707.2.
- 5.** Stairways in open parking structures which serve only the parking structure are not required to be enclosed.
- 6.** Stairways in occupancies in group I-3 as provided for in section 408.3.6 are not required to be enclosed.
- 7.** Means of egress stairways as required by section 410.5.4 are not required to be enclosed.

8. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with section 707.2

9. In other than occupancy groups H and I, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with section 903.3.1.1 are not required to be enclosed, provided at least 2 means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories.

R 408.30421 Emergency escape and rescue.

Rule 421. Section 1025.1 of the code is amended to read as follows:

1025.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in group R as applicable in section 101.2, classrooms greater than 250 feet² (23.2 m²) in group E, and group I-1 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have at least 1 exterior emergency escape and rescue opening in accordance with this section. Where basements contain 1 or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such opening shall open directly into a public street, public alley, yard, or court.

Exceptions:

1. In other than group R-3 occupancies as applicable in section 101.2, buildings equipped throughout with an approved automatic sprinkler system in accordance with section 903.3.1.1 or 903.3.1.2.

2. In other than group R-3 occupancies as applicable in section 101.2, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to 2 remote exits in opposite directions.

3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of section 404, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.

4. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.

5. High-rise buildings in accordance with section 403.

6. Emergency escape and rescue openings are not required from basements or sleeping rooms which have an exit door or exit access door that opens directly into a public street, public alley, yard, egress court, or to an exterior exit balcony that opens to a public street, public alley, yard, or egress court.

7. Basements without habitable spaces and having not more than 200 square feet (18.6 square meters) in floor area shall not be required to have emergency escape windows.

R 408.30427 Barrier free design for buildings, structures, and improved areas.

Rule 427. Sections ~~//1102.1, 1103.1, 1103.2.1, 1104.4, 1106.2, 1107.1, 1107.2, 1107.3, 1107.4, 1107.5, 1107.5.1, 1107.5.2, 1107.5.3, 1107.5.4, 1107.5.5, 1107.6, 1107.6.1, 1108.1, 1108.2, 1108.2.1, 1108.2.2, 1108.3, 1109.1, 1109.2, 1109.3, 1110.2, and 1110.3~~

of the code are amended and sections 1103.2.13, 1107.5.1.1, 1107.5.1.2, 1107.5.2.1, 1107.5.2.2, 1107.5.3.1, 1107.5.3.2, 1107.6.1.1, 1107.6.1.2, table 1107.6.1, 1107.6.2, 1107.6.2.1, 1107.6.2.2, 1107.6.3, 1107.6.4, 1107.6.4.1, 1107.6.4.2, 1107.7, 1107.7.1, 1107.7.1.1, 1107.7.1.2, 1107.7.2, 1107.7.3, 1107.7.4, 1107.7.5, table 1108.2.2, 1108.2.2.1, table 1108.2.2.1, 1108.2.3, 1108.2.3.1, 1108.2.3.2, 1108.2.4, 1108.2.4.1, table 1108.2.4.1, 1108.2.5, 1108.2.5.1, 1108.2.5.2, table 1108.3, 1108.3.1, 1109.2.1, 1109.2.1.1, 1109.2.1.2, 1109.2.1.3, 1109.2.1.4, 1109.2.1.5, 1109.2.1.6, 1109.2.1.7, 1109.2.2, 1109.4, 1109.5, 1109.6, 1109.7, 1109.8, 1109.8.1, 1109.8.2, 1109.8.3, 1109.9, 1109.10, 1109.11, 1109.11.1, 1109.12, 1109.12.1, 1109.12.2, table 1109.12.2, 1109.12.3, 1109.12.4, 1109.12.5, 1109.13, 1109.13.1, and 1110.1 are ~~//~~ **1101.2 and 1109.7 of the code are amended and section 1103.2.15 is added to the code to read as follows:**

~~//~~ 1102.1. Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in the code, have the following meanings:

- ~~-(a) "Accessible" means a site, building, facility, or portion thereof, that complies with this chapter.~~
- ~~-(b) "Accessible route" means a continuous, unobstructed path that complies with this chapter.~~
- ~~-(c) "Accessible unit" means a dwelling unit or sleeping unit that complies with the code and chapters 1 to 9 of ICC/ANSI A117.1 listed in chapter 35.~~
- ~~-(d) "Circulation path" means an exterior or interior way of passage from one place to another for pedestrians.~~
- ~~-(e) "Detectable warning" means a standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired persons of hazards on a circulation path.~~
- ~~-(f) "Dwelling unit or sleeping unit, type A" means a dwelling unit or sleeping unit designed and constructed for accessibility in accordance with ICC ANSI A117.1 listed in chapter 35.~~
- ~~-(g) "Dwelling unit or sleeping unit, type B" means a dwelling unit or sleeping unit designed and constructed for accessibility in accordance with ICC/ANSI A117.1 consistent with the design and construction requirements of the federal fair housing act, 42 U.S.C. §3601 et seq.~~
- ~~-(h) "Dwelling unit or sleeping unit, multistory" means a dwelling unit or sleeping unit that has habitable space located on more than 1 story.~~
- ~~-(i) "Facility" means the entire building or any portion of a building, structure, or area, including the site on which the building, structure, or area is located, wherein specific services are provided or activities are performed.~~
- ~~-(j) "Intended to be occupied as a residence" means that a dwelling unit or sleeping unit can or will be used all or part of the time as the occupant's place of abode.~~
- ~~-(k) "Public entrance" means an entrance that is not a service entrance.~~
- ~~-(l) "Public use areas" means interior or exterior rooms or spaces that are made available to the general public.~~
- ~~-(m) "Self-service storage facility" means real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.~~
- ~~-(n) "Service entrance" means an entrance intended primarily for delivery of goods or services.~~

~~-(o) "Site" means a parcel of land bounded by a property line or a designated portion or a public right-of-way.~~

~~-(p) "Sleeping unit" means a room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities, but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.~~

~~-(q) "Technically infeasible" means an alteration of a building or a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a load-bearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modification or addition of elements, spaces, or features that are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.~~

~~-(r) "Wheelchair space" means a space for a single wheelchair and its occupant.~~

~~-(s) "Wheelchair space cluster" means locations of 2 or more adjacent wheelchair spaces along with companion seating in assembly areas.~~

~~-1103.1. Where required. Buildings and structures, temporary or permanent, including their associated sites and facilities, shall be accessible to persons who have physical disabilities in accordance with 1966 PA 1, MCL 125.1351 et seq.~~

~~-1103.2.1 Specific requirements. Accessibility is required in buildings and facilities or portions thereof, to the extent defined by sections 1104 to 1109 of the code.~~

~~-1103.2.13. Day care facilities. Where a day care facility (Group A-3, E, I-4, and R-3) is part of a dwelling unit, only the portion of the structure utilized for the day care facility is required to be accessible.~~

~~-1104.4. Multilevel buildings and facilities. At least 1 accessible route shall connect each accessible level, including mezzanines, in multistory buildings and facilities.~~

~~-Exceptions:~~

~~-1. An accessible route is not required to floors above and below accessible levels that have an aggregate area of not more than 3,000 square feet (278.7m²), unless the level contains offices of health care providers (group B or group I), passenger transportation facilities and airports (group A-3 or group B) or multiple tenant facilities of group M.~~

~~-2. In groups A, I, R, and S occupancies, levels that do not contain accessible elements or other spaces required in accordance with section 1107 of the code are not required to be served by an accessible route from an accessible level.~~

~~-1106.2. Groups R-2 and R-3. Two percent, but not less than 1, of each type of parking space provided for occupancies in groups R-2 and R-3, which are required to have type A or type B dwelling or sleeping units, shall be accessible. Where parking is provided within or beneath a building, accessible parking spaces shall also be provided within or beneath the building.~~

~~-1107.1. General. In addition to the other requirements of this chapter, occupancies that have dwelling units or sleeping units shall be provided with accessible features in accordance with sections 1107.2 to 1107.5 of the code.~~

~~-1107.2. Design. Dwelling units and sleeping units that are required to be accessible units shall comply with the code and the applicable portions of chapters 1 to 9 of ICC/ANSI A117.1 listed in chapter 35. Type A and type B units shall comply with the applicable portions of chapter 10 of ICC/ANSI A117.1 listed in chapter 35. Units~~

required to be type A units are permitted to be designed and constructed as accessible units. Units required to be type B units are permitted to be designed and constructed as accessible units or as type A units.

~~1107.3. Accessible spaces. Rooms and spaces available to the general public or available for the use of the residents of accessible units, type A units or type B units shall be accessible. Accessible spaces shall include toilet and bathing rooms, kitchen, living, and dining areas, and any exterior spaces, including patios, terraces and balconies.~~

~~1107.4. Accessible route. At least 1 accessible route shall connect accessible building or facility entrances with the primary entrance of each accessible unit, type A unit, and type B unit within the building or facility and with exterior and interior spaces and facilities that serve the units.~~

~~Exceptions:~~

~~1. If the slope of the finished ground level between accessible facilities and building exceeds 1 unit vertical in 12 units horizontal (1:12), or where physical barriers prevent the installation of an accessible route, a vehicular route with parking that complies with section 1106 of the code at each public or common use facility or building is permitted in place of the accessible route.~~

~~2. Exterior decks, patios, or balconies that are part of type B units and have impervious surfaces, and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the unit.~~

~~1107.5. Group I. Occupancies in group I shall be provided with accessible features in accordance with sections 1107.5.1 to 1107.5.5 of the code.~~

~~1107.5.1. Group I 1. Group I 1 occupancies shall be provided with accessible features in accordance with sections 1107.5.1.1 and 1107.5.1.2 of the code.~~

~~1107.5.1.1. Accessible units. At least 4%, but not less than 1, of the dwelling units and sleeping units shall be accessible units.~~

~~1107.5.1.2. Type B units. In structures that have 4 or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a type B unit.~~

~~Exception: The number of type B units may be reduced in accordance with section 1107.7 of the code.~~

~~1107.5.2. Group I 2 Nursing homes. Nursing homes of group I 2 shall be provided with accessible features in accordance with sections 1107.5.2.1 and 1107.5.2.2 of the code.~~

~~1107.5.2.1. Accessible units. Not less than 50%, but not less than 1, of the dwelling units and sleeping units shall be accessible units.~~

~~1107.5.2.2. Type B units. In structures that have 4 or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a type B unit.~~

~~Exception: The number of type B units may be reduced in accordance with section 1107.7 of the code.~~

~~1107.5.3. Group I 2 hospitals. General purpose hospitals, psychiatric facilities, detoxification facilities, and residential care/assisted living facilities of group I 2 shall be provided with accessible features in accordance with sections 1107.5.3.1 and 1107.5.3.2 of the code.~~

~~1107.5.3.1. Accessible units. Not less than 10%, but not less than 1, of the dwelling units and sleeping units shall be accessible units.~~

~~1107.5.3.2. Type B units. In structures that have 4 or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a type B unit.~~

~~Exception: The number of type B units may be reduced in accordance with section 1107.7 of the code.~~

~~1107.5.4. Group I 2 rehabilitation facilities. In hospitals and rehabilitation facilities of group I 2 that specialize in treating conditions that affect mobility, or units within either that specialize in treating conditions that affect mobility, 100% of the dwelling units and sleeping units shall be accessible units.~~

~~1107.5.5. Group I 3. In occupancies in group I 3, not less than 5%, but not less than 1, of the dwelling units and sleeping units shall be accessible units.~~

~~1107.6. Group R. Occupancies in group R shall be provided with accessible features in accordance with sections 1107.6.1 to 1107.6.4 of the code.~~

~~1107.6.1. Group R 1. Group R 1 occupancies shall be provided with accessible features in accordance with sections 1107.6.1.1 to 1107.6.1.2 of the code.~~

~~1107.6.1.1. Accessible units. In occupancies in group R 1, accessible dwelling units and sleeping units shall be provided in accordance with table 1107.6.1. All facilities on a site shall be considered to determine the total number of accessible units. Accessible units shall be dispersed among the various classes of units. Roll-in showers provided in accessible units shall include a permanently mounted folding shower seat.~~

~~1107.6.1.2. Type B units. In structures that have 4 or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a type B unit.~~

~~Exception: The number of Type B units may be reduced in accordance with section 1107.7 of the code.~~

TABLE 1107.6.1
ACCESSIBLE DWELLING AND SLEEPING UNITS

TOTAL NUMBER OF UNITS PROVIDED	MINIMUM REQUIRED NUMBER OF ACCESSIBLE UNITS ASSOCIATED WITH ROLL IN SHOWERS	TOTAL NUMBER OF REQUIRED ACCESSIBLE UNITS
1 to 25	0	1
26 to 50	0	2
51 to 75	1	4
76 to 100	1	5
101 to 150	2	7
151 to 200	2	8
201 to 300	3	10
301 to 400	4	12
401 to 500	4	13
501 to 1,000	1% of total	3% of total
Over 1,000	10 plus 1 for each 100 over 1,000	30 plus 2 for each

		100 over 1,000
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~~1107.6.2. Group R-2. Type A and type B units shall be provided in occupancies in group R-2 in accordance with sections 1107.6.2.1 and 1107.6.2.2 of the code.~~

~~1107.6.2.1. Type A units. In buildings containing more than 20 dwelling units or sleeping units, not less than 2%, but less than 1, of the units shall be a type A unit.~~

~~Exception: The number of type A units is permitted to be reduced in accordance with section 1107.7 of the code.~~

~~1107.6.2.2. Type B units. Where there are 4 or more dwelling units or sleeping units intended to be occupied as a residence in a single structure, every dwelling unit and every sleeping unit intended to be occupied as a residence shall be a type B unit.~~

~~Exception: The number of type B units is permitted to be reduced in accordance with section 1107.7 of the code.~~

~~1107.6.3. Group R-3. In occupancies in group R-3, where there are 4 or more dwelling units or sleeping units intended to be occupied as a residence in a single structure, every dwelling and sleeping unit intended to be occupied as a residence shall be a type B unit.~~

~~Exception: The number of type B units may be reduced in accordance with section 1107.7 of the code.~~

~~1107.6.4. Group R-4. Group R-4 occupancies shall be provided with accessible features in accordance with sections 1107.6.4.1 and 1107.6.4.2 of the code.~~

~~1107.6.4.1. Accessible units. At least 1 of the dwelling or sleeping units shall be an accessible unit.~~

~~1107.6.4.2. Type B units. In structures that have 4 or more dwelling or sleeping units intended to be occupied as a residence, every dwelling and sleeping unit intended to be occupied as a residence shall be a type B unit.~~

~~Exception: The number of type B units may be reduced in accordance with section 1107.7 of the code.~~

~~1107.7. General exceptions. Where specifically permitted by sections 1107.5 or 1107.6 of the code, the required number of the type A and type B units may be reduced in accordance with sections 1107.7.1 to 1107.7.5 of the code.~~

~~1107.7.1. Buildings without elevator service. Where elevator service is not provided in a building, only the dwelling and sleeping units that are located on stories indicated in sections 1107.7.1.1 and 1107.7.1.2 of the code are required to be type A and type B units. The number of type A units shall be determined in accordance with section 1107.6.2 of the code.~~

~~1107.7.1.1. One story with type B units required. At least 1 story containing dwelling units or sleeping units intended to be occupied as a residence shall be provided with an~~

~~accessible entrance from the exterior of the building. All units intended to be occupied as a residence on that story shall be type B units.~~

~~1107.7.1.2. Additional stories with type B units. On all other stories that have a building entrance in proximity to arrival points intended to serve units on that story, as indicated in sections 2.1 and 2.2 of the code, all dwelling units and sleeping units intended to be occupied as a residence served by that entrance on that story shall be type B units.~~

~~2.1. Where the slopes of the undisturbed site measured between the planned entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance are 10% or less; and~~

~~2.2. Where the slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet of the planned entrance are 10% or less.~~

~~Where such arrival points are not within 50 feet (15,240 mm) of the entrance, the closest arrival point shall be used unless that arrival point serves the story required by section 1107.7.1.1 of the code.~~

~~1107.7.2. Multistory units. A multistory dwelling or sleeping unit that is not provided with elevator service is not required to be a type B unit. Where a multistory unit is provided with external elevator service to only 1 floor, the floor provided with elevator service shall be the primary entry to the unit, shall comply with the requirements for a type B unit, and a toilet facility shall be provided on that floor.~~

~~1107.7.3. Elevator service to the lowest story with units. Where elevator service in the building provides an accessible route only to the lowest story containing dwelling or sleeping units intended to be occupied as a residence, only the units on that story that are intended to be occupied as a residence are required to be type B units.~~

~~1107.7.4. Site impracticality. On a site with multiple non-elevator buildings, the number of units required by section 1107.7.1 of the code to be type B units is reduced to a percentage that is equal to the percentage of the entire site having grades, before development, which are less than 10%, when all of the following conditions are met:~~

~~1. Not less than 20% of the units required by section 1107.7.1 of the code on the site are type B units.~~

~~2. Units required by section 1107.7.1 of the code, where the slope between the building entrance serving the units on that story and a pedestrian or vehicular arrival point is not more than 8.33%, are type B units.~~

~~3. Units required by section 1107.7.1 of the code, where an elevated walkway is planned between a building entrance serving the units on that story and a pedestrian or vehicular arrival point and the slope between them is 10% or less are type B units.~~

~~4. Units served by an elevator in accordance with section 1107.7.3 of the code are type B units.~~

~~1107.7.5. Base flood elevation. The required number of type A and type B units shall not apply to a site where the lowest floor or the lowest structural building members of non-elevator buildings are required to be at or above the base flood elevation resulting in:~~

~~1. A difference in elevation between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15,240 mm) exceeding 30 inches (762 mm), and~~

~~2. A slope exceeding 10% between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15,240 mm). Where no such arrival points are within 50 feet (15,240 mm) of the primary entrances, the closest arrival point shall be used.~~

~~1108.1. General. In addition to the other requirements of this chapter, the requirements of sections 1108.2 to 1108.2.5 of the code shall apply to specific occupancies.~~

~~1108.2. Assembly area seating. Assembly areas that have fixed seating shall comply with sections 1108.2.1 to 1108.2.4.1 of the code. Dining areas shall comply with sections 1108.2.5 to 1108.2.5.2 of the code.~~

~~1108.2.1. Services. Services and facilities provided in areas not required to be accessible shall be provided on an accessible level and shall be accessible.~~

~~1108.2.2. Wheelchair spaces. In theaters, bleachers, grandstands, and other fixed seating assembly areas, accessible wheelchair spaces shall be provided in accordance with table 1108.2.2. At least 1 seat for a companion shall be provided beside each wheelchair space.~~

TABLE 1108.2.2
ACCESSIBLE WHEELCHAIR SPACES

CAPACITY OF SEATING IN ASSEMBLY AREAS	MINIMUM REQUIRED NUMBER OF WHEELCHAIR SPACES
4 to 25	1
26 to 50	2
51 to 100	4
101 to 300	5
301 to 500	6
Over 500	6, plus 1 additional space for each total seating capacity increase of 200

~~1108.2.2.1. Wheelchair space clusters. Accessible wheelchair spaces shall be grouped in wheelchair space clusters in accordance with table 1108.2.2.1.~~

~~Exception: In fixed seating assembly areas where sightlines require more than 1 step for a rise in elevation between rows, the minimum required number of wheelchair space clusters in that area shall be ½ of that required by table 1108.2.2.1.~~

~~1108.2.3. Dispersion of wheelchair space clusters. Dispersion of wheelchair space clusters shall be based on the availability of accessible routes to various seating areas including seating at various levels in multilevel facilities.~~

~~1108.2.3.1. Multilevel assembly seating areas. In multilevel assembly seating areas, wheelchair space clusters shall be provided on the main floor level and on 1 of each 2 additional floor or mezzanine levels.~~

~~Exceptions:~~

~~1. In multilevel assembly spaces utilized for worship services, where the second floor or mezzanine level contains 25% or less of the total seating capacity, wheelchair space clusters shall be permitted to all be located on the main level.~~

~~2. In multilevel assembly seating where the second floor or mezzanine level provides 25% or less of the total seating capacity and 300 or fewer seats, wheelchair space clusters shall be permitted to all be located on the main level.~~

**TABLE 1108.2.2.1
WHEELCHAIR SPACE CLUSTERS**

CAPACITY OF SEATING IN ASSEMBLY AREAS	MINIMUM REQUIRED NUMBER OF WHEELCHAIR SPACE CLUSTERS
Up to 300	1
301 to 600	2
601 to 900	3
901 to 1,500	4
1,501 to 2,100	5
2,101 to 3,000	6
over 3,000	6, plus 1 additional cluster for each 1,000 seats or portion thereof

~~1108.2.3.2. Separation between clusters. Wheelchair space clusters shall be separated by not less than 5 intervening rows or by not less than 10 intervening seats. Wheelchair spaces within any 1 wheelchair space cluster shall not be separated by an intervening row, nor by more than 2 intervening seats, nor by more than a 7 inch (178 mm) vertical level change.~~

~~Exception: A vertical level change exceeding 7 inches (178 mm) is permitted in a wheelchair space cluster where necessary to maintain sightlines.~~

~~1108.2.4. Assistive listening systems. Stadium, theaters, auditoriums, lecture halls, and similar fixed seating assembly areas where audible communications are integral to the use of the space shall have an assistive listening system if the area is equipped with an audio amplification system or the area has a capacity of 50 or more persons.~~

~~1108.2.4.1. Receivers. Receivers shall be provided for assistive listening systems in accordance with table 1108.2.4.1. Twenty-five percent of receivers, but not less than 2, shall be hearing aid compatible.~~

**TABLE 1108.2.4.1
RECEIVERS FOR ASSISTIVE LISTENING SYSTEMS**

CAPACITY OF SEATING IN ASSEMBLY AREAS	MINIMUM REQUIRED NUMBER OF RECEIVERS
Less than 50	2
50 to 500	2, plus 4 for each total seating capacity increase of 100 above 51
501 to 1,000	20, plus 3 for each total seating capacity increase of 100 above 501

1,001 to 2,000	35, plus 2 for each total seating capacity increase of 100 above 1,001
over 2,000	55, plus 1 for each total seating capacity increase of 100 above 2,000

~~1108.2.5. Dining areas. In dining areas, the total floor area allotted for seating and table shall be accessible.~~

~~Exception: In buildings without elevators, an accessible route to a mezzanine seating area is not required, where the mezzanine contains less than 25% of the total area and the same services are provided in the accessible area.~~

~~1108.2.5.1. Fixed or built-in seating or tables. Where fixed or built-in seating or tables are provided in dining areas, not less than 5%, but not less than 1 such seat or table, shall be accessible and be distributed throughout the facility.~~

~~1108.2.5.2. Dining counters. In establishments serving food or drink for consumption where the only seating is at counters exceeding 34 inches (864 mm) in height, a 60-inch (1524 mm) minimum length portion of the counter shall be accessible.~~

~~1108.3. Self-service storage facilities. Self-service storage facilities shall provide accessible individual self-storage spaces in accordance with table 1108.3.~~

TABLE 1108.3
ACCESSIBLE SELF-SERVICE STORAGE FACILITIES

TOTAL SPACES IN FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE SPACES
1 to 200	5 % but not less than 1
Over 200	10, plus 2% of total number of units over 200

~~1108.3.1. Dispersion. Accessible individual self-service storage spaces shall be dispersed throughout the various classes of spaces provided. Where more classes of spaces are provided than the number of required accessible spaces, the number of accessible spaces shall not be required to exceed that required by table 1108.3.~~

~~Accessible spaces are permitted to be dispersed in a single building of a multibuilding facility.~~

~~1109.1. General. Accessible building features and facilities shall be provided in accordance with sections 1109.2 to 1109.14.2 of the code.~~

~~Exception: Type A and type B dwelling units shall comply with ICC/ANSI A117.1 listed in chapter 35.~~

~~1109.2. Toilet and bathing facilities. Toilet rooms and bathing facilities shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing facilities provided within the facility shall not be located on the inaccessible floor. At least 1 of each type of fixture, element, control, or dispenser in each accessible toilet room and bathing facility shall be accessible.~~

~~Exceptions:~~

- ~~1. In toilet rooms or bathing facilities accessed only through a private office, not for common or public use, and intended for use by a single occupant, any of the following alternatives are allowed:~~
 - ~~1.1. Doors are permitted to swing into the clear floor space if the door swing can be reversed to meet the requirements in ICC/ANSI A117.1 listed in chapter 35.~~
 - ~~1.2. The height requirements for the water closet in ICC/ANSI A117.1 listed in chapter 35 are not applicable.~~
 - ~~1.3. Grab bars are not required to be installed in a toilet room, if the reinforcement has been installed in the walls and located so as to permit the installation of such grab bars.~~
 - ~~1.4. The requirement for height, knee, and toe clearance shall not apply to a lavatory.~~
- ~~2. This section is not applicable to dwelling units, sleeping accommodations, and patient toilet and bathing facilities that are not required to be accessible by section 1107 of the code.~~
- ~~3. Where multiple single-user toilet rooms or bathing facilities are clustered at a single location and contain fixtures, in excess of the minimum required number of plumbing fixtures, not less than 5%, but not less than 1 room for each use at each cluster, shall be accessible.~~
- ~~4. Toilet room fixtures that are in excess of those required by the plumbing code and that are designated for use by children in day care and primary school occupancies.~~
 - ~~1109.2.1. Unisex toilet and bathing rooms. In assembly and mercantile occupancies, an accessible unisex toilet room shall be provided where an aggregate of 6 or more male and female water closets are required. In buildings of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be used to determine the unisex toilet room requirement. In recreational facilities where separate sex bathing rooms are provided, an accessible unisex bathing room shall be provided. Fixtures located within unisex toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy.~~
 - ~~Exception: Where each separate sex bathing room has only 1 shower or bathtub fixture, a unisex bathing room is not required.~~
 - ~~1109.2.1.1. Standard. Unisex toilet and bathing rooms shall comply with this section and ICC/ANSI A117.1 listed in chapter 35.~~
 - ~~1109.2.1.2. Unisex toilet rooms. Unisex toilet rooms shall include only 1 water closet and only 1 lavatory. A unisex bathing room in accordance with section 1109.2.1.3. of the code shall be considered a unisex toilet room.~~
 - ~~Exception: A separate sex toilet room containing not more than 2 water closets without urinals, or containing only 1 water closet and 1 urinal shall be considered a unisex toilet room.~~
 - ~~1109.2.1.3. Unisex bathing rooms. Unisex bathing rooms shall include only 1 shower or bathtub fixture. Unisex bathing rooms shall also include 1 water closet and 1 lavatory. Where storage facilities are provided for separate sex bathing rooms, accessible storage facilities shall be provided for unisex bathing rooms.~~
 - ~~1109.2.1.4. Location. Unisex toilet and bathing rooms shall be located on an accessible route. Unisex toilet rooms shall be located not more than 1 story above or below separate sex toilet rooms. The accessible route from any separate sex toilet room to a unisex toilet room shall not exceed 500 feet (152 mm).~~

~~1109.2.1.5. Prohibited location. In passenger transportation facilities and airports, the accessible route from separate sex toilet rooms to a unisex toilet room shall not pass through security checkpoints.~~

~~1109.2.1.6. Clear floor space. Where doors swing into a unisex toilet or bathing room, a clear floor space not less than 30 inches by 48 inches (762 mm by 1,219 mm) shall be provided, within the room, beyond the area of the door swing.~~

~~1109.2.1.7. Privacy. Doors to unisex toilet and bathing rooms shall be securable from within the room.~~

~~1109.2.2. Water closet compartment. Where water closet compartments are provided in a toilet room or bathing facility, at least 1 wheelchair-accessible compartment shall be provided. Where the combined total water closet compartments and urinals provided in a toilet room or bathing facility is 6 or more, at least 1 ambulatory-accessible water closet compartment shall be provided in addition to the wheelchair-accessible compartment. Wheelchair-accessible and ambulatory-accessible compartments shall comply with ICC/ANSI A117.1 listed in chapter 35.~~

~~1109.3. Sinks. Where sinks are provided, not less than 5%, but not less than 1, provided in accessible spaces shall comply with ICC/ANSI A117.1 listed in Chapter 35.~~

~~Exceptions:~~

~~1. Mop or service sinks are not required to be accessible.~~

~~2. Sinks designated for use by children in day care and primary school occupancies.~~

~~1109.4. Kitchens, kitchenettes, and wet bars. Where kitchen, kitchenettes, and wet bars are provided in accessible spaces or rooms, they shall be accessible in accordance with ICC/ANSI A117.1 listed in chapter 35.~~

~~1109.5. Drinking fountains. On floors where drinking fountains are provided, not less than 50%, but not less than 1 fountain, shall be accessible.~~

~~1109.6. Elevators. Passenger elevators on an accessible route shall be accessible and comply with section 3001.3 of the code.~~

~~1109.7. Lifts. Platform (wheelchair) lifts shall not be a part of a required accessible route in new construction.~~

~~Exceptions: Platform (wheelchair) lifts are permitted for:~~

~~1. An accessible route to a performing area in occupancies in group A.~~

~~2. An accessible route to wheelchair spaces required by section 1108.2.2 of the code.~~

~~3. An accessible route to spaces that are not open to the general public and that do not have an occupant load of more than 5.~~

~~4. An accessible route within a dwelling unit.~~

~~5. An accessible route to wheelchair seating spaces located in outdoor dining terraces in A-5 occupancies where the means of egress from the dining terraces to a public way is open to the outdoors.~~

~~1109.8. Storage. Where fixed or built-in storage elements, such as cabinets, shelves, medicine cabinets, closets, and drawers, are provided in required accessible spaces, at least 1 of each type shall contain storage space complying with ICC/ANSI A117.1 listed in chapter 35.~~

~~1109.8.1. Lockers. Where lockers are provided in accessible spaces, not less than 5%, but not less than 1, of each type shall be accessible.~~

~~1109.8.2. Shelving and display units. Self-service shelves and display units in mercantile occupancies and shelving in stack areas of libraries shall be located on an~~

accessible route. Such shelving and display units shall not be required to comply with reach range provisions.

~~1109.8.3. Coat hooks and folding shelves. Where coat hooks or folding shelves are provided in inaccessible toilet rooms, toilet compartments, or in dressing, fitting, or locker rooms, at least 1 of each type shall be provided in accessible toilet rooms, toilet compartments, and dressing, fitting, and locker rooms.~~

~~1109.9. Detectable warnings. Passenger transit platform edges bordering a drop-off and not protected by platform screens or guards shall have a detectable warning.~~

~~Exception: Detectable warnings are not required at bus stops.~~

~~1109.10. Assembly area seating. Assembly areas that have fixed seating in every occupancy shall comply with section 1108.2 of the code for accessible seating and assistive listening devices.~~

~~1109.11. Seating at tables, counters, and work surfaces. Where seating at fixed or built-in tables, counters, or work surfaces is provided in accessible spaces, not less than 5% of the seating, but not less than 1, shall be accessible.~~

~~1109.11.1. Dispersion. Accessible fixed or built-in seating at tables, counters, or work surfaces shall be distributed throughout the space or facility containing the tables, counters, or work surfaces.~~

~~1109.12. Customer services facilities. Customer service facilities shall provide for accessible features in accordance with sections 1109.12.1 to 1109.12.5 of the code.~~

~~1109.12.1. Dressing, fitting, and locker rooms. Where dressing rooms, fitting rooms, or locker rooms are provided, not less than 5%, but not less than 1, of each type of use in each cluster provided shall be accessible.~~

~~1109.12.2. Check-out aisles. Where check-out aisles are provided, accessible check-out aisles shall be provided in accordance with table 1109.12.2. Where check-out aisles serve different functions, at least 1 accessible check-out aisle shall be provided for each function. Where check-out aisles are dispersed throughout the building or facility, accessible check-out aisles shall also be dispersed. Traffic control devices, security devices, and turnstiles located in accessible check-out aisles or lanes shall be accessible.~~

~~Exception: Where the area of the selling space is less than 5,000 square feet (465 m²), only 1 check-out aisle is required to be accessible.~~

TABLE 1109.12.2
ACCESSIBLE CHECK-OUT AISLES

TOTAL CHECK-OUT AISLES OF EACH FUNCTION	MINIMUM NUMBER OF ACCESSIBLE CHECK-OUT AISLES EACH FUNCTION
1 to 4	1
5 to 8	2
9 to 15	3
Over 15	3, plus 20% of additional aisles

~~1109.12.3. Point of sales and service counters. Where counters are provided for sales or distribution of goods or services, at least 1 of each type provided shall be accessible.~~

~~Where such counters are dispersed throughout the building or facility, the accessible counters shall also be dispersed.~~

~~—1109.12.4. Food service lines. Food service lines shall be accessible. Where self-service shelves are provided, not less than 50%, but not less than 1, of each type provided shall be accessible.~~

~~—1109.12.5. Queue and waiting lines. Queue and waiting lines servicing accessible counters or check-out aisles shall be accessible.~~

~~—1109.13. Controls, operating mechanisms, and hardware. Controls, operating mechanisms, and hardware intended for operation by the occupant, including switches that control lighting and ventilation and electrical convenience outlets, in accessible spaces, along accessible routes or as parts of accessible elements shall be accessible.~~

~~—1109.13.1. Operable windows. Where operable windows are provided in rooms that are required to be accessible in accordance with sections 1107.5.1, 1107.5.2 and 1107.6.1 of the code, at least 1 window in each room shall be accessible and each required operable window shall be accessible.~~

~~—Exception: Accessible windows are not required in bathrooms or kitchens.~~

~~—1110.1. Signs. Required accessible elements shall be identified by the international symbol of accessibility at the following locations:~~

- ~~—1. Accessible parking spaces required by section 1106.1 of the code, except where the total number of parking spaces provided is 5 or less.~~
- ~~—2. Accessible passenger loading zones.~~
- ~~—3. Accessible areas of refuge required by section 1103.2.13.5 of the code.~~
- ~~—4. Accessible rooms where multiple single-user toilet or bathing rooms are clustered at a single location.~~
- ~~—5. Accessible entrances where not all entrances are accessible.~~
- ~~—6. Accessible check-out aisles where not all aisles are accessible. The sign, where provided, shall be above the check-out aisle in the same location as the check-out aisle number or type of check-out identification.~~
- ~~—7. Unisex toilet and bathing rooms.~~
- ~~—8. Accessible dressing, fitting, and locker rooms where not all such rooms are accessible.~~

~~—1110.2. Directional signage. Directional signage indicating the route to the nearest like accessible elements shall be provided at the following locations:~~

- ~~—1. Inaccessible building entrances.~~
- ~~—2. Inaccessible public toilets and bathing facilities.~~
- ~~—3. An elevator not serving an accessible route.~~
- ~~—4. At each separate-sex toilet and bathing room indicating the location of the nearest unisex toilet or bathing room where provided in accordance with section 1109.2.1 of the code.~~

~~—Directional signs shall include the international symbol of accessibility.~~

~~—1110.3. Other signs. Signs indicating special accessibility provisions shall be provided as follows:~~

- ~~—1. In assembly areas required to comply with section 1108.2.4 of the code, a sign notifying the general public of the availability of assistive listening systems shall be provided at ticket offices or similar locations.~~

~~2. Each door to an exit stairway shall have a tactile sign, including raised letters and braille, stating: EXIT.~~

~~3. At exits and elevators serving a required accessible space, but not providing an approved accessible means of egress, signs shall be installed indicating the location of accessible means of egress.~~ **//1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A 117.1, except sections 611 and 707.**

1109.7 Lifts. Platform (wheelchair) lifts are permitted to be a part of a required accessible route in new construction where indicated in items 1 to 7. Platform (wheelchair) lifts shall be installed in accordance with the Michigan elevator code, R 408.8101 to R 408.8695.

1. An accessible route to a performing area and speakers' platforms in occupancies in group A.

2. An accessible route to wheelchair spaces required to comply with the wheelchair space dispersion requirements of sections 1108.2.2 to 1108.2.4.

3. An accessible route to spaces that are not open to the general public with an occupant load of not more than 5.

4. An accessible route within a dwelling or sleeping unit.

5. An accessible route to wheelchair seating spaces located in outdoor dining terraces in A-5 occupancies where the means of egress from the dining terraces to a public way are open to the outdoors.

6. An accessible route to raised judges' benches, clerks' stations, jury boxes, witness stands, and other raised or depressed areas in a court.

7. An accessible route where existing exterior site constraints make use of a ramp or elevator infeasible.

1103.2.15. Military, fire service, and police facilities. Housing, bathing, toilet, training, and storage areas intended for use and occupancy exclusively by military, fire service, police, or security personnel required to be physically agile are not required to be accessible.

R 408.30429a Compliance.

Rule 429a. The code is amended by adding sections ~~//3409.1~~**//3410.1** and 3409.2 as follows:

~~//3409.1~~**//3410.1** Compliance. The provisions of this section are intended to maintain or increase the current degree of public safety, health, and general welfare in existing buildings while permitting repair, alteration, addition, and change of occupancy without requiring full compliance with chapters 2 through 33 of the code, or sections 3401.3 through ~~//3406~~**//3407**, except where compliance with other provisions of the code is specifically required in this section.

Exception: Buildings made to comply with the provisions of the Michigan rehabilitation code for existing buildings, R 408.30551 to R 408.30577, shall be deemed to comply with the requirements of the code.

~~//3409.2~~**//3410.2** Applicability. Structures existing before November 6, 1974, in which work involving additions, alterations, or changes of occupancy shall be made to conform to the requirements of this section or the provisions of sections 3402 ~~//through~~**//to** 3406 of the code.

The provisions in sections ~~//3409.2.1//~~**3410.2.1** ~~//through 3409.2.5//~~**to 3410.2.5** of the code shall apply to existing occupancies that will continue to be, or are proposed to be, in groups A, B, E, F, M, R, S, and U. These provisions shall not apply to buildings that have occupancies in group H or I.

R 408.30437 ~~//Spaces used for different purposes://~~**Truss design drawings.**

Rule 437. ~~//Section 302.4 is added to the code to read as follows:~~

~~302.4. Spaces used for different purposes. A room or space that is intended to be occupied at different times for different purposes shall comply with all requirements that are applicable to each of the purposes for which the room or space will be occupied.//~~

Section 2303.4.1 of the code is amended to read as follows:

2303.4.1 Truss design drawings. Truss construction documents shall be prepared by a registered design professional and shall be provided to the building official and approved prior to installation. These construction documents shall include, at a minimum, the following information. Truss shop drawings shall be provided with the shipment of trusses delivered to the job site.

1. Slope or depth, span and spacing.
2. Location of joints.
3. Required bearing widths.
4. Design loads as applicable.
5. Top chord live load (including snow loads).
6. Top chord dead load.
7. Bottom chord live load.
8. Bottom chord dead load.
9. Concentrated loads and their points of application.
10. Controlling wind and earthquake loads.
11. Adjustments to lumber and metal connector plate design value for conditions of use.
12. Each reaction force and direction.
13. Metal connector plate type, size, thickness or gage, and the dimensioned location of each metal connector plate except where symmetrically located relative to the joint interface.
14. Lumber size, species, and grade for each member.
15. Connection requirements are required for all of the following:
 - a. Truss to truss girder.
 - b. Truss ply to ply.
 - c. Field species.
16. Calculated deflection ratio or maximum deflection for live and total load.
17. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections, and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss construction documents or on supplemental documents.
18. Required permanent truss member bracing location.

R 408.30443 ~~//Residential group R://~~**Masonry.**

Rule 443. ~~//Section 310.1 of the code is amended to read as follows:~~

~~310.1. Residential group "R." Residential group "R" includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classed as an institutional group I. Residential occupancies shall include all of the following:~~

~~(a) R-1 Residential occupancies where the occupants are primarily transient in nature (less than 30 days) including both of the following:~~

~~(i) Boarding houses transient.~~

~~(ii) Hotels, including motels.~~

~~(b) R-2 Residential occupancies containing more than 2 dwelling units where the occupants are primarily permanent in nature, including all of the following:~~

~~(i) Apartment houses.~~

~~(ii) Boarding houses, not transient.~~

~~(iii) Convents.~~

~~(iv) Dormitories.~~

~~(v) Fraternities and sororities.~~

~~(vi) Monasteries.~~

~~(c) R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as R-1, R-2, or I and where buildings do not contain more than 2 dwelling units, or adult and child care facilities that provide accommodations for 5 or fewer persons of any age for less than 24 hours.~~

~~(d) R-4 Residential occupancies include buildings arranged for occupancy as residential care/assisted living facilities, including more than 5, but not more than 16, occupants, excluding staff.~~

~~Group R-4 occupancies shall meet the requirements for construction as defined for group R-3, except for the height and area limitations provided in section 503 of the code.~~
Section 1405.3.2 of the code is amended to read as follows:

1405.3.2. Masonry. Flashing and weep holes shall be located in the first course of masonry above finished ground level above the foundation wall or slab; at the heads of windows, doors, and other wall openings; at window sills and at other points of support including structural floors, shelf angles, and lintels where anchored veneers are designed in accordance with section 1405.5. Flashing shall extend to, or beyond, the finished face of the wall.

R 408.30444. Water -resistive barrier.

Rule 444. Section 1404.2 of the code is amended to read as follows:

1404.2. Water-resistive barrier. A minimum of 1 layer of No. 15 asphalt felt, complying with ASTM D 226, as listed in chapter 43, for type 1 felt, shall be attached to the studs or sheathing, with flashing as described in section 1405.3, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer.

R 408.30445 Automatic sprinkler systems.

Rule 445. Section //903.2.12.3//903.2.10.3** of the code is amended to read as follows:**

//903.2.12.3//903.2.10.3.** Buildings more than 30 feet in height. An automatic sprinkler system shall be installed throughout a building that has a floor level which has an occupant load of 30 or more occupants and which is located 30 feet or more above the lowest level of fire department vehicle access.**

Exceptions:

1. Airport control towers.
2. Open parking structures.
3. Occupancies in group F-2.
4. Existing buildings having occupied floor levels not more than 55 feet in height above the lowest level of fire department vehicle access, where the local unit of government complies with the following parameters:
 - 4.1. The local unit of government having a municipal fire department with an ISO rating of 3 or lower, employing a full time career fire fighting staff.
 - 4.2. The governing body of the local unit of government has passed a resolution affirming the use of this exception and filed that resolution with the department of consumer and industry services, bureau of construction codes.

R 408.30447 Smokeproof enclosures.

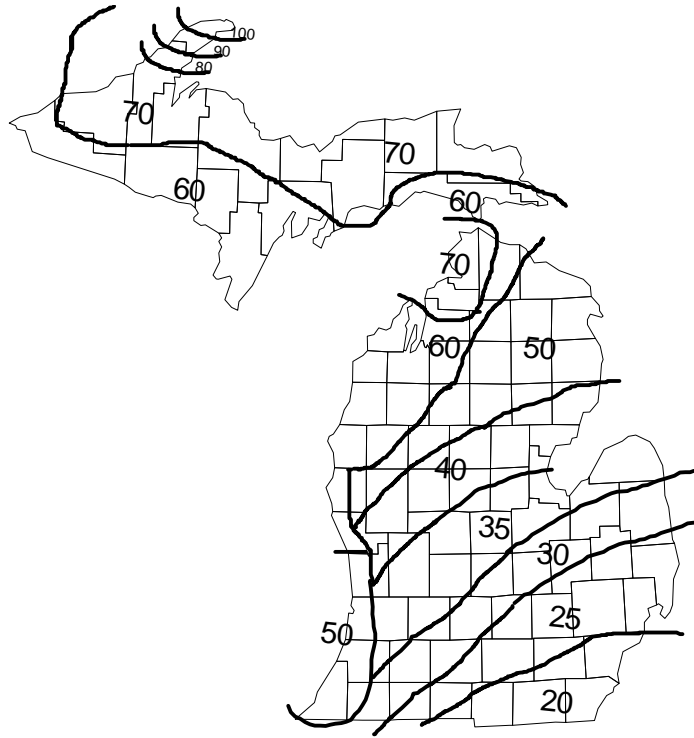
Rule 447. Section ~~//1005.3.2.5//~~**1019.1.8** of the code is amended to read as follows:

~~//1005.3.2.5//~~**1019.1.8.** Smokeproof enclosures. In buildings required to comply with section 403 or 405 of the code, each of the exits of a building that serves stories where the floor surface is located more than 55 feet (16,764 mm) above the lowest level of fire department vehicle access or more than 30 feet (9,144 mm) below the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with section 909.20 of the code.

R 408.30448d Ground snow loads.

Rule 448d. Figure 1608.2 of the code is amended to read as follows:

FIGURE 1608.2
Ground Snow Loads



R 408.30449 Frost protection.

Rule 449. Section 1805.2.1 of the code is amended to read as follows:

1805.2.1. Frost protection. ~~//Except when erected upon solid rock or otherwise protected from frost, a foundation wall, pier, and other permanent support of all buildings and structures larger than 400 square feet (37 m²) in area or 10 feet (3,048 mm) in height shall extend a minimum of 42 inches, (1,067 mm) below actual grade and spread footings of adequate size shall be provided where necessary to properly distribute the load within the allowable bearing value of the soil. Alternatively, the structures shall be supported on piles when solid earth or rock is not available. Footings shall not be founded on frozen soils unless the frozen condition is of a permanent character.~~

~~—Exception: Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:~~

- ~~—1. Freezing temperatures.~~
 - ~~—2. Soil type.~~
 - ~~—3. Groundwater conditions.~~
 - ~~—4. Snow depth experience.~~
 - ~~—5. Exposure to the elements.~~
 - ~~—6. Other specific conditions identified by the building official that might affect the foundation system.~~
- //Except where otherwise protected from frost, foundation walls, piers, and other permanent supports of buildings and structures shall be protected from frost by at least one of the following methods:**

- 1. Extending not less than 42 inches below finish grade.**
- 2. Constructing in accordance with ASCE-32 listed in chapter 35.**
- 3. Erecting on solid rock.**

Exceptions:

1. Free-standing buildings meeting all of the following conditions shall not be required to be protected:
 - a. Classified in importance category I (see table 1604.5).
 - b. Area of 400 square feet (37 m²) or less.
 - c. Eave height of 10 feet (3048 mm) or less.
2. Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:
 - a. Freezing temperatures.
 - b. Soil type.
 - c. Groundwater conditions.
 - d. Snow depth experience.
 - e. Exposure to the elements.
 - f. Other specific conditions identified by the building official that may affect the foundation system.

Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

R 408.30458 Elevators and conveying systems.

Rule 458. Sections 3001.1, ~~//and//~~3001.2, **3001.4, 3002.5, 3002.6, 3003.2, 3004.5, and 3004.6** of the code are amended and sections 3001.2.1 and 3001.2.2 are added to the code to read as follows:

3001.1. Scope. The design, construction, installation, alteration, and repair of elevators and conveying systems and their equipment shall conform with the requirements of the Michigan elevator laws and rules, MCL 408.801 et seq., MCL 338.2151 et seq., and R 408.8101 to R 408.8695 and this chapter. Installation or construction in flood hazard areas established in section 1612.3 shall comply with ASCE 24 listed in chapter 35.

3001.2. Other devices. Other devices shall conform to the requirements of sections 3001.2.1 and 3001.2.2 of the code.

3001.2.1. Conveyors. Conveyors and related equipment shall conform to the requirements of ASME B20.1 listed in chapter 35.

3001.2.2. Automotive lifts. Automotive lifts shall conform to the requirements of ALI ALCTV listed in chapter 35.

3001.4. Change in use. A change in use of an elevator from freight to passenger, passenger to freight, or from 1 freight class to another freight class shall comply with the requirements of the Michigan elevator code, R 408.8101 to R 408.8695.

3002.5. Emergency doors. Where an elevator is installed in a single blind hoistway or on the outside of a building, there shall be installed in the blind portion of the hoistway or blank face of the building, an emergency door in accordance with the requirements of the Michigan elevator code, R 408.8101 to R 408.8695.

3002.6. Prohibited doors. Doors, other than hoistway doors and the elevator car door, shall be prohibited at the point of access to an elevator car.

3003.2 Fire-fighters' emergency operation. Elevators shall be provided with phase I emergency recall operation and phase II emergency in-car operation in accordance with the requirements of the Michigan elevator code, R 408.8101 to R 408.8695.

3004.5. Plumbing and mechanical systems. Plumbing and mechanical systems shall not be located in an elevator shaft.

Exception: Floor drains, sumps, and sump pumps exclusively for draining the elevator pit shall be permitted at the base of the shaft provided they are indirectly connected to the plumbing system.

3004.6. Construction at bottom of hoistway. Pits extending to the ground shall have noncombustible floors and be designed as to prevent entry of ground water into the pit. The pit floor of any hoistway not extending to the ground shall be of fire-resistive construction having a fire-resistance rating at least equal to that required for the hoistway enclosure.

R 408.30461 **Rescinded.**//~~Separate structures.~~

~~Rule 461. Section 3104.2 of the code is amended to read as follows:~~

~~3104.2. Separate structures. Connected buildings shall be considered to be separate structures.~~

~~Exceptions:~~

~~1. Buildings on the same lot in accordance with section 503.1.3 of the code.~~

~~2. For purposes of calculating the number of type B units required by chapter 11 of the code structurally connected buildings and buildings that have multiple wings are considered 1 structure.~~//

R 408.30475 Existing structures.

Rule 475. Sections //3408.1, 3408.3, 3408.5, and 3408.6//**3409.1, 3409.3, 3409.5, 3409.6, and 3409.7.2** of the code are amended to read as follows:

//3408.1//**3409.1.** Scope. The provisions of sections //3408.2 to 3408.8.5//**3409.2 to 3409.8.5** of the code apply to the maintenance, change of occupancy, additions, and alterations to existing buildings, including those identified as historic buildings in accordance with 1966 PA 1, MCL 125.1351 et seq.

//3408.3//**3409.3.** Change of occupancy. Unless technically infeasible, section //3408.5//**3409.5** of the code shall be applied in accordance with 1966 PA 1, MCL 125.1351 et seq.

//3408.5//**3409.5.** Alterations. A building, facility, or element that is altered shall comply with the applicable provisions in chapter 11 of the code and ICC/ANSI A117.1 listed in chapter 35, unless technically infeasible. When compliance with this section is technically infeasible, then the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by section //3408.6//**3409.6** of the code.

2. Accessible means of egress required by chapter 10 of the code are not required to be provided in existing buildings and facilities.

3. Buildings, structures, or improved areas which exist on or before the effective date of these rules and which are in compliance with the code at the time of the issuance of the certificate of occupancy unless the alteration specifically modifies an area covered by sections //3408.6 to 3408.8.5//**3409.6 to 3409.8.5** of the code.

~~//3408.6//~~**3409.6.** Alterations affecting an area containing a primary function. When an alteration affects the accessibility to, or contains an area of primary function, then the route to the primary function area shall be accessible. The accessible route to the primary function shall include accessible toilets and drinking fountains serving the area of the primary function.

Exceptions:

1. The costs of providing the accessible route is not required to exceed 20% of the costs of the alterations affecting the area of primary function.
2. This section does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets, and signs.
3. This section does not apply to alterations limited solely to mechanical systems, electrical systems, the installation or alteration of fire-protection systems, and the abatement of hazardous materials.
4. This section does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility, or element.

3409.7.2. Elevators. Altered elements of existing elevators shall comply with the Michigan elevator code, R 408.8101 to R 408.8695 and ICC A 117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

R 408.30495a **Rescinded.**~~//Definitions:~~

~~—Rule 495a. Section 3408.3 is added to the code to read as follows:~~

~~—3408.3. Definitions shall be construed as being the same as defined in articles 1 and 2 of the code, except as follows:~~

~~—"Building, existing" means a building in existence before November 6, 1974.//~~

R 408.30499 Adoption of standards by reference; referenced codes.

Rule 499. Chapter 35 of the code is amended to add the following referenced codes, which are available from the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes **and Fire Safety**, 2501 Woodlake Circle, Okemos, Michigan 48864:

- | | |
|----------------------------------|--|
| (a) Michigan Electrical Code | R 408.30801 et seq., of the Michigan Administrative Code. |
| (b) Michigan Mechanical Code | R 408.30901a et seq., of the Michigan Administrative Code. |
| (c) Michigan Plumbing Code | R 408.30701 et seq., of the Michigan Administrative Code. |
| (d) Michigan Uniform Energy Code | R 408.31061 et seq., of the Michigan Administrative Code. |
| (d) Michigan Elevator Code | R 408.8101 et seq., of the Michigan Administrative Code. |

RESIDENTIAL CODE

R 408.30503 Approved materials and equipment.

Rule 503. Sections R104.9 of the code is amended to read as follows:

R104.9. Approved materials and equipment. Materials, equipment, and devices shall be constructed or installed in accordance with approvals granted under section 21 of ~~the act~~ **//1972 PA 230, MCL 125.1521** or by the building official.

R 408.30505 Work exempt from permit.

Rule 505. Section R105.2 of the code is amended to read as follows:

R105.2. Work exempt from permit. Exemption from the permit requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the code or any other laws or ordinances of this jurisdiction.

Permits are not required for any of the following:

(a) Building permits shall not be required for any of the following:

(i) One-story detached accessory structures, if the floor area does not exceed 200 square feet (18.58 m²).

(ii) A fence that is not more than 6 feet (1829 mm) high.

(iii) A retaining wall that is not more than 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.

(iv) A water tank supported directly upon grade if the capacity is not more than 5,000 gallons (18 927 L) and the ratio of height to diameter or width is not greater than 2 to 1.

(v) A sidewalk or driveway that is not more than 30 inches (762 mm) above adjacent grade and is not over any basement or story below.

(vi) Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.

(vii) A prefabricated swimming pool that is less than 24 inches (610 mm) deep.

(viii) Swings and other playground equipment accessory to a 1- or 2-family dwelling.

(ix) Window awnings supported by an exterior wall **which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.**

(b) Electrical permits shall not be required for ~~any of~~ the following:

Repairs and maintenance: A permit is not required for minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

(c) Mechanical permits shall not be required for any of the following:

(i) Portable heating, cooking, or clothes drying appliances.

(ii) Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.

(iii) A portable heating appliance.

(iv) A portable ventilation appliance.

(v) A portable cooling unit.

(vi) Steam, hot or chilled water piping within any heating or cooling equipment regulated by the code.

(vii) Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.

(viii) A portable evaporative cooler.

(ix) A self-contained portable refrigeration unit that is not more than 1.5 horsepower (1119 W).

- (x) **Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.**
- (xi) **Gas piping limited to 10 feet (3048 mm) in length and not more than 6 fittings.**
- (d) Plumbing permits shall not be required for any of the following:
 - (i) The stopping of leaks in drains, water, soil, waste or vent pipe; if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, then the work is considered as new work and a permit shall be obtained and inspection made as provided in the code.
 - (ii) The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, if the repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.

R 408.30506 Submittal documents.

Rule 506. Sections R106.1 **and R802.10.1** of the code ~~//is//~~**are** amended **and section R106.1.4 and figure 802.10.1 are added to the code** to read as follows:

R106.1. Submittal documents. Construction documents, special inspection and structural program and other data shall be submitted in 1 or more sets with each application for a permit. The construction documents shall be prepared by or under the direct supervision of a registered design professional when required by article 20 of 1980 PA 299, MCL 339.101 et seq., and known as the Michigan occupational code. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

R106.1.4. Truss design data. As an alternative to the submission of truss design drawings, the truss design data sheet may be provided to the building official as part of the construction documents at the time of application. Truss design drawings shall be submitted to the building official prior to truss installation as required by section R802.10.1.

R802.10.1 Truss design drawings. Truss design drawings, prepared in conformance with section R802.10.1, shall be provided to the building official and approved prior to installation. The truss design data sheet, figure R802.10.1, may be provided to the building official at the time of permit application, as an alternative to design drawings as permitted in section R106.1.4. Truss design drawings shall include, at a minimum, the information specified below. Truss design drawings shall be provided with the shipment of trusses delivered to the jobsite.

1. Slope or depth, span, and spacing.
2. Location of all joints.
3. Required bearing widths.
4. Design loads as applicable.
 - a. Top chord live load (including snow loads).
 - b. Top chord dead load.
 - c. Bottom chord live load.
 - d. Bottom chord dead load.
 - e. Concentrated loads and their points of application.
 - f. Controlling wind and earthquake loads.
5. Adjustments to lumber and joint connector design values for conditions of use.

- 6. Each reaction force and direction.**
- 7. Joint connector type and description (e.g., size, thickness, or gauge) and the dimensioned location of each joint connector except where symmetrically located relative to the joint interface.**
- 8. Lumber size, species, and grade for each member.**
- 9. Connection requirements for the following:**
 - a. Truss to truss girder.**
 - b. Truss ply to ply.**
 - c. Field splices.**
- 10. Calculated deflection ratio and/or maximum description for live and total load.**
- 11. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections, and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss design drawing or on supplemental documents.**
- 12. Required permanent truss member bracing location.**

Roof Loading Data Sheet

Authority: 1972 PA 230

Completion:

Completed prior to application for plan review and building permit. This form is a voluntary form used to assist in the permit approval process.

Jurisdictional information should be included in this space

Applicant's Name:		Date:
Applicant's Address:		Permit Number:
City:	State:	Zip:
Applicant's Signature:		
Job Location:		
Address:		
Township/Village/City:		County:

THIS FORM SHOULD BE COMPLETED BY THE PERMIT APPLICANT, OR DESIGN PROFESSIONAL FOR C_e, C_t, AND I, PLACE AN "X" IN THE APPROPRIATE BOX THAT BEST DESCRIBES THE STRUCTURE.

Ground Exposure, P_g = _____

From Figure R301.2(5) MRC or Figure 1608.2 MBC

Exposure Factor C _e						
Exposure		Fully Exposed ¹		Partially Exposed ²		Sheltered ³
A	Large city center with at least 1/2 the buildings exceeding 70 ft. in height.	N/A		1.1		1.3
B	Urban and suburban areas, wooded areas or other terrain with closely spaced objects having the size of single-family dwellings or larger.	0.9		1		1.2
C	Open terrain with scattered obstructions having heights less than 30 ft. (flat open country)	0.9		1		N/A
D	Flat unobstructed areas exposed to wind flowing over open water for a distance of at least 1 mile. (i.e. Great Lakes.)	0.8		0.9		N/A

¹Fully Exposed: Roofs exposed on all sides with no shelter by terrain, higher structures, or trees.

²Partially Exposed: All roofs except those designated as "fully exposed" or "sheltered."

³Sheltered: Roofs located tight among conifers that qualify as obstructions.

Thermal Factor C_t

Thermal Condition ⁴	C _t
All structures except as listed below	1
Structures kept just above freezing and those with cold, ventilated roofs with an R factor of 25 or greater between the ventilated and heated spaces, such as attics	1.1
Unheated structures and those intentionally kept below freezing, such as seasonal building or storage buildings	1.2
Continuously heated greenhouse with a roof R Value less than 2 and having an interior temperature maintained at about 50 degrees 3 ft above the floor during winter months and a temperature alarm system or an attendant to warn of a heating failure.	0.85

⁴These conditions shall be representative of the anticipated conditions during winter months for the life of the structure

Importance Factor

Category	I
I Building and other structures representing low hazard to human life, i.e.: Agricultural, Temporary, and Minor Storage Facilities.	0.8
II All buildings except those listed in Categories III and IV.	1
III Building and other structures representing substantial hazard to human life in the event of failure.	1.1
IV Buildings and other structures designated as essential facilities.	1.2

Attic Live Load

Entire Attic	Y/N
Specific Areas (if yes, list areas below)	Y/N
List Rooms:	

R 408.30508 Payment of fees.

Rule 508. Section R108.1 of the code is amended to read as follows:

R108.1. Fees. The fees prescribed in section 22 of ~~//the act//~~**1972 PA 230, MCL 125.1522** shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee is paid.

R 408.30510 Use and occupancy.

Rule 510. Sections R110.1 and R110.2 of the code are amended to read as follows:

R110.1. Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy classification of a building or structure or portion thereof shall not be made until a certificate of occupancy has been issued in accordance with section 13 of ~~//the act//~~**1972 PA 230, MCL 125.1513**.

R110.2. Change in use. A change in the character or use of an existing structure shall not be made, except as specified in the Michigan building code, R 408.30401 to R 408.30499a.

R 408.30511 Violation penalties.

Rule 511. Section R113.4 of the code is amended to read as follows:

R113.4. Violation penalties. It is unlawful for any person, firm, or corporation to violate a provision of the code or fail to conform with any of the requirements thereof, or erect, construct, alter, extend, repair, move, remove, demolish, or occupy any building, structure, or equipment regulated by the code, or cause work to be performed or done in conflict with or in violation of the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the code. A violator shall be assessed a fine in accordance with section 23 of ~~//the act//~~**1972 PA 230, MCL 125.1523**.

R 408.30512 Notice to owner.

Rule 512. Section R114.1 of the code is amended to read as follows:

R114.1. Notice to owner. Upon notice from the enforcing agency, work on any building or structure that is being done contrary to the code or in a dangerous or unsafe manner shall immediately cease. The notice shall be in accordance with section 12 of ~~//the act//~~**1972 PA 230, MCL 125.1512**. Any person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition is subject to the penalty provisions in section 23 of ~~//the act//~~**1972 PA 230, MCL 125.1523**.

R 408.30513 Definitions.

Rule 513. The definitions of building, ~~//and//~~registered design professional, **and sunroom addition** in section R202 of the code are amended, **the definition of residential building type is deleted**, and the definition of structure is added to section R202 to read as follows:

R202. Definitions.

"Building" means a combination of materials, whether portable or fixed, forming a structure affording a facility or shelter for use or occupancy by persons, animals, or

property. The term does not include a building incidental to the use for agricultural purposes of the land on which the building is located if it is not used in the business of retail trade. The term shall be construed as though followed by the words "or part or parts of the building and all equipment in the building" unless the context clearly requires a different meaning.

"Registered design professional" means an individual who is licensed under article 20, 1980 PA 299, MCL 339.2001 et seq.

"Structure" means that which is built or constructed, an edifice or building of any kind, or a piece of work artificially built up or composed of parts joined together in some definite manner. Structure does not include a structure incident to the use for agricultural purposes of the land on which the structure is located and does not include works of heavy civil construction including without limitation any of the following:

- (a) A highway.
- (b) A bridge.
- (c) A dam.
- (d) A reservoir.
- (e) A lock.
- (f) A mine.
- (g) A harbor.
- (h) A dockside port facility.
- (i) An airport landing facility.
- (j) A facility for the generation, or transmission, or distribution of electricity.

Structure shall be construed as though followed by the word "or part or parts of the structure and all equipment in the structure," unless the context clearly indicates otherwise.

"Sunroom addition" means a new structure with glazing in excess of 40% of the gross area of the structure's exterior walls and roof added to an existing dwelling.

R 408.30514 ~~//Climatic and geographic design criteria-//~~**Means of appeal.**

Rule 514. ~~//Table R301.2(1) of the code is amended to read as follows:~~

Table R301.2(1)
Climatic and Geographic Design Criteria

ROOF SNOW LOAD	WIND	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	FLOOD HAZARDS
	Speed (mph)		Weathering	Frost Depth Line	Termite	Decay		
See Figure R301.2(5)	90	See Figure R301.2(2)	Severe	42" See Note c	See Figure R301.2(6)	See Figure R301.2(7)	See Note a	—See —Note b

Notes:

~~—a. The winter design temperature criteria shall be taken from appendix D of the Michigan plumbing code, R 408.30701 to R 408.30796.~~

~~b. The flood hazard areas shall be designated by the local unit of government in accordance with the adopted ordinance regulating construction in flood hazard locations.~~

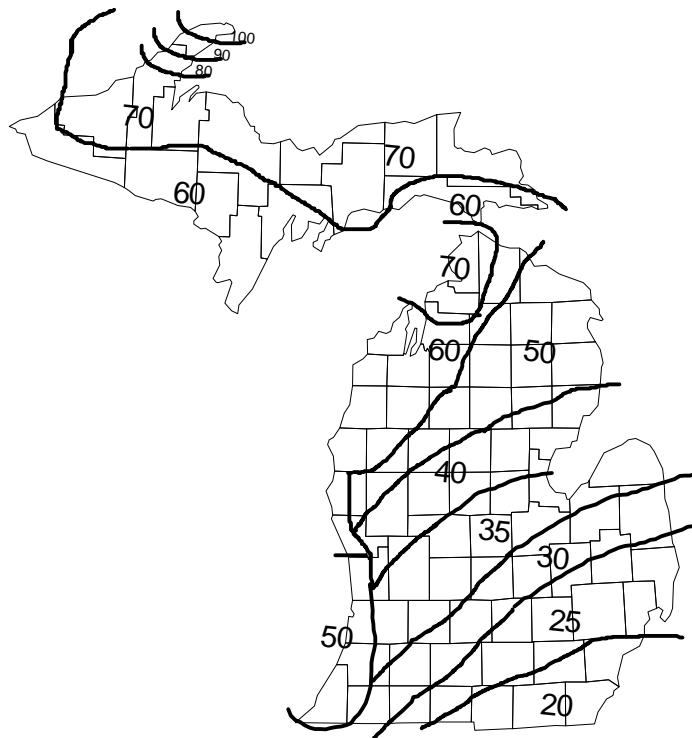
~~c. The frost depth may be modified as provided in section R403.1.4 of the code.~~ **Section R112.1 of the code is amended to read as follows:**

R112.1 Means of appeal. A person has the right to appeal a decision of the enforcing agency to the board of appeals. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The application shall be filed in accordance with section 14 of 1972 PA 230, MCL 125.1514.

R 408.30515 Ground snow loads.

Rule 515. Figure R301.2(5) of the code is amended to read as follows:

FIGURE R301.2(5)
Ground Snow Load P_g for Michigan (lb/ft²)



R 408.30517 Landings for stairways.

Rule 517. Section ~~//R312.1.1~~ **//R311.5.4** of the code is amended to read as follows:

~~//R312.1.1~~ **//R311.5.4.** Landings for stairways. There shall be a floor or landing at the top and bottom of each stairway.

Exception: ~~//At the top of an interior flight of stairs, if a door does not swing over the stairs. A stairway between the garage and dwelling is defined as an interior stairway.~~ **//A**

floor or landing is not required at the top of an interior flight of stairs, provided a door does not swing over the stairs.

A flight of stairs shall not have a vertical rise greater than 12 feet (3658 mm) between floor levels or landings.

The width of each landing shall not be less than the stairway served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

R 408.30518 Modular ramps.

Rule 518. Section ~~//R313.4//~~**R313.3** is added to the code to read as follows:

~~//R313.4//~~**R313.3** Modular ramps. Modular ramp systems approved pursuant to section 21 of ~~//the act//~~**1972 PA 230, MCL 125.1521** are not required to comply with the requirements of section R403.1.4 of the code.

R 408.30519 Treads and risers.

Rule 519. Sections ~~//R314.2//~~**R311.5.3.1** and **R 311.5.3.2** of the code ~~//is//~~**are** amended to read as follows:

~~//R314.2. Treads and risers. The maximum riser height shall be 8 1/4 inches (210 mm) and the minimum tread depth shall be 9 inches (229 mm). The riser height shall be measured vertically between leading edges of the adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The walking surface of treads and landings of a stairway shall be sloped no steeper than 1 unit vertical in 48 units horizontal (2% slope). The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 of an inch (9.5 mm). The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 of an inch (9.5 mm).~~**R311.5.3.1. Riser height. The maximum riser height shall be 7 3/4 inches (196 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm)**

R311.5.3.2. Tread depth. The minimum tread depth shall be 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12-inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R 408.30520 ~~//Handrails//~~**Doors.**

Rule 520. ~~//Section R315.1. of the code is amended to read as follows:~~

~~R315.1. Handrails. Handrails that have minimum and maximum heights of 34 inches and 38 inches (864 mm and 965 mm), respectively, measured vertically from the nosing of the treads, shall be provided on at least 1 side of stairways. All required handrails~~

~~shall be continuous the full length of the stairs with 3 or more risers from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight. Ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1.5 inches (38 mm) between the wall and the handrail.~~

~~Exceptions:~~

~~1. Handrails shall be permitted to be interrupted by a newel post at a turn.~~

~~2. The use of a volute, turnout, or starting easing shall be allowed over the lowest tread.~~

//Section R311.4.2 of the code is amended and section R311.4.2.1 is added to the code to read as follows:

R311.4.2. Type and size. The required exit door shall be a side-hinged door not less than 3 feet (914 mm) in width and 6 feet, 8 inches (2032 mm) in height. Other exterior hinged or sliding doors shall not be less than 24 inches in width and 6 feet, 6 inches in height.

R311.4.2.1. Interior doors. Interior doors shall be not less than 24 inches in width and 6 feet, 6 inches in height.

Exception: Doors to areas less than 10 square feet of floor area.

R 408.30521 Elevation requirements.

Rule 521. Section ~~//R327.2.1~~**//R323.2.1** of the code is amended to read as follows;

~~//R327.2.1~~**//R323.2.1.** Elevation requirements. (1) Buildings and structures shall have the lowest floor elevated 1 foot above the design flood elevation.

(2) In areas of shallow flooding (AO zones), buildings and structures shall have the lowest floor (including basement) elevated at least as high above the highest adjacent grade as the depth number specified in feet (mm) on the FIRM, or not less than 2 feet (51 mm) if a depth number is not specified.

(3) Basement floors that are below grade on all sides shall be elevated to or above the design flood elevation.

Exception: Enclosed areas below the design flood elevation, including basements that have floors which are not below grade on all sides, shall meet the requirements of section ~~//R327.2.2~~**//R323.2.2** of the code.

R 408.30522 Minimum depth.

Rule 522. Section R403.1.4 of the code is amended to read as follows:

R403.1.4. Minimum depth. All exterior footings and foundation systems shall extend 42 inches below actual grade.

Exceptions:

1. Frost-protected footings constructed in accordance with section R403.3 of the code and footings and foundations erected on solid rock shall not be required to extend below the frost line.

2. The footings in detached accessory structures not exceeding 400 square feet in area (37.16 m²) or 10 feet in height (3048 mm) shall extend 12 inches (305 mm) below grade to undisturbed soil or soils of sufficient bearing capacity. All vegetation and topsoil shall be removed for placement of accessory structures.

3. Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:

- (a) Freezing temperatures (freezing degree days).
- (b) Soil type.
- (c) Ground water conditions.
- (d) Snow depth experience.
- (e) Exposure to the elements.
- (f) Other specific conditions identified by the building official that may affect the foundation system.

4. Constructed in accordance with section R403.3.

5. Constructed in accordance with ASCE 32-01 as listed in chapter 43.

6. Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

R 408.30523 Floor cantilevers.

Rule 523. Section R502.3.3 and table ~~//502.3.3 are added to the code//~~ **R502.3.3(1) of the code are amended** to read as follows:

R502.3.3. Floor cantilevers. Floor cantilever spans shall not exceed the nominal depth of the wood floor joist. Floor cantilevers constructed in accordance with table R502.3.3(1) ~~//shall be permitted when supporting//~~ **may support** a light-frame bearing wall and roof only. The ratio of backspan to cantilever shall be not less than 3 to 1.

TABLE R502.3.3(1)
CANTILEVER SPANS FOR FLOOR JOISTS
SUPPORTING LIGHT-FRAME EXTERIOR BEARING WALL AND ROOF ONLY ^{a,b,c,f,g,h}
 (Floor Live Load \leq 40 psf, Roof Live Load \leq 20 psf)

Member and Spacing	<u>Maximum Cantilever Span</u> (Uplift Force at Backspan Support in Lbs.) ^{d,e}											
	<u>Ground Snow Load</u>											
	\leq 20 psf			30 psf			50 psf			70 psf		
	<u>Roof Width</u>			<u>Roof Width</u>			<u>Roof Width</u>			<u>Roof Width</u>		
	<u>24 ft.</u>	<u>32 ft.</u>	<u>40 ft.</u>	<u>24 ft.</u>	<u>32 ft.</u>	<u>40 ft.</u>	<u>24 ft.</u>	<u>32 ft.</u>	<u>40 ft.</u>	<u>24 ft.</u>	<u>32 ft.</u>	<u>40 ft.</u>
2 x 8 @ 12"	20" (177)	15" (227)		18" (209)								
2 x 10 @ 16"	29" (228)	21" (297)	16" (364)	26" (271)	18" (354)		20" (375)					
2 x 10 @ 12"	36" (166)	26" (219)	20" (270)	34" (198)	22" (263)	16" (324)	26" (277)			19" (356)		
2 x 12 @ 16"		32" (287)	25" (356)	36" (263)	29" (345)	21" (428)	29" (367)	20" (484)		23" (471)		
2 x 12 @ 12"		42" (209)	31" (263)		37" (253)	27" (317)	36" (271)	27" (358)	17" (447)	31" (348)	19" (462)	
2 x 12 @ 8"		48" (136)	45" (169)		48" (164)	38" (206)		40" (233)	26" (294)	36" (230)	29" (304)	18" (379)

For SI: 1 in. = 25.4 mm, 1 psf = 0.0479 kN/M²

- a. Tabulated values are for clear-span roofs supported solely by exterior bearing walls.
- b. Spans are based on no. 2 grade lumber of douglas fir-larch, hem-fir, southern pine, and spruce-pine-fir for repetitive (3 or more) members.
- c. The ratio of back span to cantilever span shall be not less than 3:1.

- d. Connections capable of resisting the indicated uplift force shall be provided at the backspan support.
- e. Uplift force is for a backspan to cantilever span ratio of 3:1. Tabulated uplift values ~~//are permitted to//~~ **may** be reduced by multiplying by a factor equal to 3 divided by the actual backspan ratio provided (3/backspan ratio).
- f. See section ~~//R301.2.2.7//~~ **R301.2.2.2.2** of the code for additional limitations on cantilevered floor joists or detached 1- and 2-family dwellings in seismic design categories D1 and D2 and townhouses in seismic design categories C, D1, and D2.
- g. A full-depth rim joist shall be provided at the cantilevered end of the joists.
- h. Linear interpolation shall be permitted for building widths and ground snow loads other than shown in table R502.3.3.

R 408.30524 ~~//Scope//~~Michigan uniform energy code.

Rule 524. ~~//Section N1101.1 of the code is amended to read as follows:
N1101.1. Scope//~~Buildings shall be designed and constructed in accordance with the Michigan uniform energy code part 10 rules, R 408.31001 to R 408.31099.

R 408.30526 Sizing.

Rule 526. Section M1401.3 of the code is amended to read as follows:

M1401.3. Sizing. Heating and cooling equipment shall be sized based on building loads calculated in accordance with the provisions of ACCA Manual J-~~//1986//~~ **1987**, ~~//the standard of the air conditioning contractors of America, which is adopted in these rules by reference//~~ **as listed in chapter 43** or other approved heating and cooling calculation methodologies. Ductwork shall be sized in accordance with the provisions of ACCA Manual D-1995, ~~//the standard of the air conditioning contractors of America, which is adopted in these rules by reference. The standards may be purchased from the Air Conditioning Contractors of America, 1712 New Hampshire N.W., Washington, DC 20009, at a cost as of the time of adoption of these amendatory rules of \$45.00 and \$44.00 respectively. The standards may also be purchased from the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these amendatory rules of \$45.00 and \$44.00 respectively, plus mailing costs. The standards may be inspected at the Okemos office of the Michigan department of consumer and industry services, bureau of construction codes//~~ **as listed in chapter 43.**

R 408.30531 ~~//Sizing of drain pipe offsets//~~Solvent cementing.

Rule 531. ~~//Section P3006.2 of the code is amended to read as follows:
P3006.2. Horizontal offsets above the lowest branch. A stack that has an offset of more than 45 degrees (0.79 rad) from the vertical shall be sized as follows:
1. The portion of the stack above the offset shall be sized as for a regular stack based on the total number of fixture units above the offset.
2. The offset shall be sized as for a building drain in accordance with table P3005.4.2 of the code.
3. The portion of the stack below the offset shall be sized as for the offset or based on the total number of fixture units on the entire stack, whichever is larger//~~ **Section P2904.8.1 is added to the code to read as follows:**

P2904.8.1. Solvent cementing. Joint surfaces shall be clean and free from moisture and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F 493, as listed in chapter 43, shall be applied to all joint surfaces. The joint shall be made while the cement is wet and in accordance with ASTM D 2846 or ASTM F 493 as listed in chapter 43. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where all of the following conditions apply:

- a. The solvent cement used is third-party certified as conforming to ASTM F 493 as listed in chapter 43.
- b. The solvent cement used is yellow in color.
- c. The solvent cement is used only for joining 1/2 inch (12.7 mm) through 2-inch (51 mm) diameter CPVC pipe and fittings.
- d. The CPVC pipe and fittings are manufactured in accordance with ASTM D 2846 as listed in chapter 43.

R 408.30534 Individual venting required.

Rule 534. Section P3106.2 is added to the code to read as follows:

P3106.2. Individual venting required. When fixtures other than water closets discharge into a 3-inch horizontal branch ~~//or building drain//~~ downstream from a water closet, then each fixture connected to the branch ~~//or building drain//~~ within 54 inches (1371.6 mm) downstream of the water closet flange shall be vented individually.

R 408.30536 ~~//Applicability//~~ **General**

Rule 536. Sections E3301.1 **and E 3301.2** of the code ~~//is//~~ **are** amended to read as follows:

E3301.1. Applicability. The provisions of chapters 33 to 42 of the code shall establish the general scope of the electrical system and equipment requirements of the code. Chapters 33 to 42 of the code cover those wiring methods and materials most commonly encountered in the construction of 1- and 2-family dwellings and structures regulated by the code. Other wiring methods, materials, and subject matter covered in the Michigan electrical code, R 408.30801 to R 408.30880 are also allowed by the code.

E3301.2. Scope. Chapters 33 to 42 of the code shall cover the installation of electrical systems, equipment, and components indoors and outdoors that are within the scope of the code, including services, power distribution systems, fixtures, appliances, devices, and appurtenances. Services within the scope of the code shall be limited to 120/240 volt, 0- to 400- ampere, single-phase systems. These chapters specifically cover the equipment, fixtures, appliances, wiring methods, and materials that are most commonly used in the construction or alteration of 1- and 2-family dwellings and accessory structures regulated by the code. The omission from these chapters of any material or method of construction provided by the Michigan electrical code, R 408.30801 to R 408.30880, shall not be construed as prohibiting the use of such material or method of construction. Electrical systems, equipment, or components not specifically covered in these chapters shall comply with the applicable provisions of the Michigan electrical code, R 408.30801 to R 408.30880.

R 408.30537 ~~//Scope//~~ **Separate outdoor electric space conditioning equipment.**

Rule 537. ~~//Section E3301.2 of the code is amended to read as follows:~~
~~E3301.2. Scope. Chapters 33 to 42 of the code shall cover the installation of electrical systems, equipment, and components indoors and outdoors that are within the scope of the code, including services, power distribution systems, fixtures, appliances, devices, and appurtenances. Services within the scope of the code shall be limited to 120/240 volt, 0 to 400 ampere, single phase systems. These chapters specifically cover the equipment, fixtures, appliances, wiring methods, and materials that are most commonly used in the construction or alteration of 1 and 2 family dwellings and accessory structures regulated by the code. The omission from these chapters of any material or method of construction provided by the Michigan electrical code, R 408.30801 to R 408.30880, shall not be construed as prohibiting the use of such material or method of construction. Electrical systems, equipment, or components not specifically covered in these chapters shall comply with the applicable provisions of the Michigan electrical code, R 408.30801 to R 408.30880.~~**//Section E3501.6.3 is added to the code to read as follows:**

E3501.6.3. Separate outdoor electric space conditioning equipment. A service disconnect for separately metered outdoor electric space conditioning equipment may be located immediately adjacent to the outdoor meter cabinet. A permanent plaque or directory shall be installed at each service disconnect location denoting the other services, feeders, and branch circuits supplying a building or structure and area served by each service, feeder, and branch circuit.

R 408.30539 Plastic pipe.

Rule 539. Sections P3003.3.6.1 and P3003.3.6.2 are added to the code to read as follows:

P3003.3.6.1. ABS plastic pipe. Solvent cement for ABS plastic pipe conforming to ASTM D 2235, as listed in chapter 43, shall be applied to all joint surfaces.

P3003.3.6.2 PVC plastic pipe. A primer complying with ASTM F 656, as listed in chapter 43, shall be applied to all PVC solvent-cemented joints. Solvent cement for PVC plastic pipe conforming to ASTM D 2564, as listed in chapter 43, shall be applied to all joint surfaces.

R 408.30540 Distance of trap from vent.

Rule 540. Section P3105.1 of the code is amended to read as follows:

P3105.1. Distance of trap from vent. Each fixture trap shall have a protecting vent located so that the slope and the developed length in the fixture drain from the trap weir to the vent fitting are within the requirements set forth in table P3105.1.

R 408.30541 Fuel burning appliances.

Rule 541. Section M1307.6 is added to the code to read as follows:

M1307.6. Fuel burning appliances. Fuel burning appliances shall not be installed within 10 feet (3048 mm) of a laundry chute.

R 408.30542 Duct insulation/floor register location.

Rule 542. Section M1601.3.4 of the code is amended and section M1601.3.9 is added to the code to read as follows:

M1601.3.4. Duct insulation. Duct insulation shall be installed in accordance with the following requirements:

1. A vapor retarder having a maximum permeance of 0.05 perm [(2.87 ng/(s · m² · Pa)] in accordance with ASTM E 96, as listed in chapter 43, or aluminum foil with a minimum thickness of 2 mils (0.051 mm), shall be installed on the exterior of insulation on cooling supply ducts that pass through nonconditioned spaces conducive to condensation.

2. Exterior duct systems shall be protected against the elements.

3. Duct coverings shall not penetrate a fireblocked wall or floor.

4. All portions of the air distribution system shall be installed in accordance with section M1601 and be insulated to an installed R-5 when system components are located within the building but outside the conditioned space, and R-8 when located outside to the building. When located within a building envelope assembly, at least R-8 shall be applied between the duct and that portion of the assembly farthest from conditioned space.

Exception: Exhaust air ducts and portions of the air distribution system within appliances or equipment.

M1601.3.9 Floor register location. Floor registers located in room or spaces containing water closets shall be located a minimum of 3 feet from the water closet.

R 408.30543 Boiler low-water cutoff.

Rule 543. Section M2002.5 of the code is amended to read as follows:

M2002.5. Boiler low-water cutoff. All steam and hot water boilers shall be protected with a low-water cutoff control. The low-water control shall automatically stop the combustion operation of the appliance when the water level drops below the lowest safe water level as established by the manufacturer. The low-water cut off on all low-pressure boilers shall be installed in accordance with ASME code section IV which is adopted by reference in these rules. The code is available for inspection at the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864, or from the American Society of Mechanical Engineers, Three Park Avenue, New York, New York, 10016-5990, at a cost as of the time of adoption of these amendatory rules of \$260.00.

A low-water cutoff shall be of the float or probe type or paddle-type non-reversing flow switch.

R 408.30544 Concrete and masonry foundation dampproofing.

Rule 544. Section R406.1 of the code is amended to read as follows:

R406.1. Concrete and masonry foundation dampproofing. Except where required to be waterproofed by section R406.2, foundation walls that retain earth and enclose habitable or usable spaces located below grade shall be dampproofed from the top of the footing to the finished grade. Masonry walls shall have not less than 3/8 inch (9.5 mm) Portland cement parging applied to the exterior of the wall. The parging shall be dampproofed with a bituminous coating, 3 pounds per square yard (1.63 kg/m²) of acrylic modified cement, 1/8-inch (3.2 mm) coat of surface-bonding mortar complying with ASTM C 887, as listed in chapter 43, or any material

permitted for waterproofing in section R406.2. Concrete walls shall be dampproofed by applying any 1 of the above listed dampproofing materials or any 1 of the waterproofing materials listed in section R406.2 to the exterior of the wall.

Exception: Parging of unit masonry walls is not required where a material is approved for direct application to the masonry.

R 408.30545 Exterior covering.

Rule 545. Sections R703.2, R703.6, and R703.8, and table R703.4 of the code are amended to read as follows:

R703.2. Weather-resistive sheathing paper. A minimum of one layer of No. 15 asphalt felt complying with ASTM D 226, as listed in chapter 43, for type 1 felt or other approved weather-resistive materials shall be applied over sheathing of all exterior walls. See table R703.4. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm). Building paper or other approved material shall be continuous up to the underside of the rafter or truss top chord and terminated at penetrations and building appendages in such a manner to meet the requirements of the exterior wall envelope as described in section R703.1.

Exception: Such felt or material is permitted to be omitted in detached accessory buildings.

Table R703.4
WEATHER-RESISTANT SIDING ATTACHMENT AND MINIMUM THICKNESS

SIDING MATERIAL		NOMINAL THICKNESS ^a (INCHES)	JOINT TREATMENT	SHEATHING PAPER REQUIRED	TYPE OF SUPPORTS FOR THE SIDING MATERIAL AND FASTENERS ^{bcd}					
					Wood or Wood Structural Panel sheathing	Fiberboard Sheathing Into stud	Gypsum Sheathing Into stud	Foam Plastic Sheathing Into stud	Direct to studs	Number or Spacing of fasteners
Horizontal Aluminum ^c	Without Insulation	0.019 ^d	Lap	Yes	0.120 nail 1½" long	0.120 nail 2" long	0.120 2" long	0.120 nail ^z	Not allowed	Same as stud spacing
		0.024	Lap	Yes	0.120 nail 1½" long	0.120 nail 2" long	0.120 nail 2" long	0.120 nail ^z	Not allowed	
	With Insulation	0.019	Lap	Yes	0.120 nail 1½" long	0.120 nail 2½" long	0.120 nail 2½" long	0.120 nail ^z	0.120 nail 1½" long	
Hardboard ^l Panel siding-vertical		7/16	Note g	Yes	Note o	Note o	Note o	Note o	Note o	6" panel edges 12" inter. Sup. ^p
Hardboard ^l Lap-siding-horizontal		7/16	Note r	Yes	Note q	Note q	Note q	Note q	Note q	Same as stud spacing
Steel ⁱ		29ga.	Lap	Yes	0.113 nail 1¾" Staple-1¾"	0.113 nail 2¾" Staple-2 ½"	0.113 nail 2½" Staple-2 ¼"	0.113 nail ^z 2½"Staple ^z	Not allowed	Same as stud spacing
Particleboard panels		3/8-1/2	Note g	Yes	6d box nail	6d box nail	6d box nail	Box nail ^z	6d box nail, 3/8 not allowed	6" panel edge 12" inter. Sup.
		5/8	Note g	Yes	6d box nail	8d box nail	8d box nail	box nail ^z	6d box nail	
Plywood panel ^l (exterior grade)		3/8	Note g	Yes	0.099 nail-2"	0.113 nail-2½"	0.099 nail-2"	0.113 nail ^z Staple ^z	0.099 nail-2"	6" on edges
Vinyl Siding ⁿ		0.035	Lap	Yes	0.120 nail 1½" Staple-1¾"	0.120 nail 2" Staple-2½"	0.120 nail 2" Staple-2½"	.0120 nail ^z Staple ^z	Not allowed	Same as stud spacing
Wood ^k Rustic, drop		3/8 Min	Lap	Yes	Fastener penetration into stud-1"				0.113 nail-2½" Staple-2"	Face nailing up to 6" widths, 1 nail per bearing; 8" widths and over, 2 nails per bearing
Shiplap		19/32 Average	Lap	Yes						
Bevel		7/16								
Butt tip		3/16	Lap	Yes						
Brick veneer		2	Section R703	Yes	See Section R703 and Figure R703.7 ^h					
Concrete masonry veneer		2		(Note m)						
Stone veneer		2	Section R703	Yes (Note m)	See Section R703 and Figure R703.7 ^h					
Fiber cement panel siding ^s		5/16	Note t	Yes	6d corrosion resistant nail ^u	6d corrosion resistant nail ^u	6d corrosion resistant nail ^u		4 d corrosion resistant nail ^v	6" oc on edges, 12" oc on intermed. Studs
Fiber cement lap siding ^s		5/16	Note w	Yes Note y	6d corrosion resistant nail ^u	6d corrosion resistant nail ^u	6d corrosion resistant nail ^u		6d corrosion resistant nail ^x	Note x

For SI: 1" = 25.4 mm

- Based on stud spacing of 16 inches on center where studs are spaced 24 inches, siding shall be applied to sheathing approved for that spacing.
- Nail is a general description and shall be T-head, modified round head, or round head with smooth or deformed shanks.
- Staples shall have a minimum crown width of 7/16-inch outside diameter and be manufactured of minimum 16 gage wire.
- Nails or staples shall be aluminum, galvanized, or rust-preventative coated and shall be driven into the studs for fiberboard or gypsum backing.
- Aluminum nails shall be used to attach aluminum siding.
- Aluminum (0.019 inch) shall be unbacked only when the maximum panel width is 10 inches and the maximum flat area is 8 inches. The tolerance for aluminum siding shall be +0.002 inch of the nominal dimension.
- Sheathing paper required.
- All attachments shall be coated with a corrosion-resistive coating.
- Shall be of approved type.

- j. Three-eighths-inch plywood shall not be applied directly to studs spaced greater than 16 inches on center when long dimension is parallel to studs. One-half-inch plywood shall not be the face grain perpendicular to the studs or over sheathing approved for that stud spacing.
- k. Wood board sidings applied vertically shall be nailed to horizontal nailing strips or blocking set 24 inches on center. Nails shall penetrate 1.5 inches into studs, studs and wood sheathing combined, or blocking. A weather-resistant membrane shall be installed weatherboard fashion under the vertical siding unless the siding boards are lapped or battens are used.
 - l. Hardboard siding shall comply with AHA A135.6 as listed in chapter 43.
 - m. For masonry veneer, a weather-resistant sheathing paper is not required over a sheathing that performs as a weather-resistive barrier when a 1-inch air space is provided between the veneer and the sheathing. When the 1-inch space is filled with mortar, a weather-resistant sheathing paper is required over studs or sheathing.
 - n. Vinyl siding shall comply with ASTM D 3679 as listed in chapter 43.
 - o. Minimum shank diameter of 0.092 inch, minimum head diameter of 0.025 inch, and nail length shall accommodate sheathing and penetrate framing 1.5 inches.
 - p. When used to resist shear forces, the spacing must be 4 inches at panel edges and 8 inches on interior supports.
 - q. Minimum shank diameter of 0.099 inch, minimum head diameter of 0.240 inch, and nail length shall accommodate sheathing and penetrate framing 1.5 inches.
 - r. Vertical end joints shall occur at studs and shall be covered with a joint cover or shall be caulked.
 - s. Fiber cement siding shall comply with the requirements of ASTM C 1186 as listed in chapter 43.
 - t. See section R703.10.1 of the code.
 - u. Minimum 0.102 inch smooth shank, 0.255 inch round head.
 - v. Minimum 0.099 inch smooth shank, 0.250 inch round head.
 - w. See section R703.10.2 of the code.
 - x. Face nailing: 2 nails at each stud. Concealed nailing: one 11 gage 1-1/2 galvanized roofing nail (0.371 inch head diameter, 0.120 inch shank) or 6d galvanized box nail at each stud.
 - y. See exceptions in section R703.2 of the code.
 - z. Minimum nail length shall accommodate sheathing and penetrate framing 1.5 inches.

R703.6. Exterior plaster. Installation of these materials shall be in compliance with ASTM C 926, which is adopted by reference in these rules and ASTM C 1063, as listed in chapter 43. The ASTM C 926 standard is available for inspection at the Michigan Department of Consumer and Industry Services, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864, or from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA, 19428, at a cost as of the time of adoption of these amendatory rules of \$30.00.

R703.6.3. Weather-resistant barriers. Weather-resistant barriers shall be installed as required in section R703.2 and, where applied over wood-based sheathing, shall include a weather-resistive vapor permeable barrier with a performance at least equivalent to 2 layers of grade D paper.

R703.8. Flashing. Approved corrosion-resistive flashing shall be provided in the exterior wall envelope in such a manner as to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. The flashing shall extend to the surface of the exterior wall finish and shall be installed to prevent water from reentering the exterior wall envelope. Flashing shall extend to, or beyond, the finished exterior face of the wall. Approved corrosion-resistive flashing shall be installed at all of the following locations:

1. At top of all exterior window and door openings in such a manner as to be leakproof, except that self-flashing windows having a continuous lap of not less than 1 1/8 inches (28 mm) over the sheathing material around the perimeter of the opening, including corners, do not require additional flashing; jamb flashing may also be omitted when specifically approved by the building official.
2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.
3. Under and at the ends of masonry, wood, or metal copings and sills.
4. Continuously above all projecting wood trim.
5. Where exterior porches, decks, or stairs attach to a wall or floor assembly of wood-frame construction.
6. At wall and roof intersections.
7. At built-in gutters.

R 408.30546 Minimum uniformly distributed live loads.

Rule 546. Table R301.5 of the code is amended to read as follows:

TABLE R301.5
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS
(in pounds per square foot)

USE	LIVE LOAD
Attics with storage ^b	20
Attics without storage ^{bg}	10
Decks ^c	40
Exterior balconies	60
Fire escapes	40
Guardrails and handrails ^d	200
Guardrails in-fill components ^f	200

Passenger vehicle garages ^a	50 ^a
Rooms other than sleeping rooms	40
Sleeping rooms	30
Stairs	40 ^c

For SI: 1 pound per square foot = 0.0479 kN/m², 1 square inch = 645 mm², 1 pound = 4.45 N.

- a. Elevated garage floors shall be capable of supporting a 2,000-pound load applied over a 20-square-inch area.
- b. No storage with roof slope not over 3 units in 12 units.
- c. Individual stair treads shall be designed for the uniformly distributed live load or a 300-pound concentrated load acting over an area of 4 square inches, whichever produces the greater stresses.
- d. A single concentrated load applied in any direction at any point along the top.
- e. See section R502.2.1 for decks attached to exterior walls.
- f. Guard in-fill components (all those except the handrail), balusters, and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to 1 square foot. This load need not be assumed to act concurrently with any other live load requirement.
- g. Load shall be applied non-concurrent with other variable loads.

R 408.30547. Referenced standards.

Rule 547. The TPI standard in chapter 43 of the code is amended to update the standard to the TPI 1-2002 edition.